

Lending to European Households and Non-Financial Corporations: Growth and Trends in 2017

Key Findings from the ECRI Statistical Package 2018

Sylvain Bouyon and Pietro Gagliardi*, August 2018

The ECRI Statistical Package 2018, *Lending to Households and Non-Financial Corporations*, provides data on outstanding credit granted by monetary financial institutions (MFIs) to resident households and non-financial corporations (NFCs) for the period 1995-2017. It offers an extensive and detailed overview of EU countries, EFTA states, some emerging economies (India, Russia, Mexico, and Saudi Arabia), and some developed markets (Australia, Canada, Japan and the US). It contains detailed data on credit volumes, growth rates and relative measures; in both nominal and real terms; both at the aggregate level and broken down by sector, credit type, currency, and maturity. The ECRI Statistical Package 2018 is available for purchase [here](#).

Country Groups Definitions and Country Codes

EU28 encompasses the 28 member states of the European Union as of 1 January 2017, namely Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

EU15 are the 15 countries that joined the EU before the 2004 enlargement. The group consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

NMS are the 13 countries that joined the EU as part of 2004 enlargement and subsequently. The group consists of Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovenia and Slovakia.

* Sylvain Bouyon is a Research Fellow, Head of Fintech and Retail Finance at CEPS and ECRI. Pietro Gagliardi is a Research Intern at CEPS and ECRI. The authors gratefully acknowledge the contribution of Roberto Musmeci.

EA19 comprises the 19 member states of the Euro Area as of 1 January 2017, namely Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia and Spain.

Country codes are as follows:

AT: Austria	FI: Finland	NL: Netherlands
BE: Belgium	FR: France	PL: Poland
BG: Bulgaria	HR: Croatia	PT: Portugal
CY: Cyprus	HU: Hungary	RO: Romania
CZ: Czech Republic	IE: Ireland	SE: Sweden
DE: Germany	IT: Italy	SI: Slovenia
DK: Denmark	LT: Lithuania	SK: Slovakia
EE: Estonia	LU: Luxembourg	UK: United Kingdom
EL: Greece	LV: Latvia	
ES: Spain	MT: Malta	

Key Findings

The ECRI Statistical Package 2018 reveals that total lending to households and Non-Financial Corporations (NFCs) in the EU increased in real terms in 2017, following the trend reversal in 2015 and positive growth in 2016. Despite this, the level of lending still falls short of the pre-crisis 2007 level for the EU28, the EU15 and the EA19, but not for the NMS (which are now above the 2007 level).

At a more granular level, lending to households has experienced (small) positive real growth in 2017, but generally at a slower pace than in 2015 and 2016. Lending to households can be disaggregated in consumer credit, housing loans, and other loans. Both consumer credit and housing loans follow a similar pattern to total household lending: they have increased in 2017, but with smaller magnitudes than in 2016. Growth in total lending to households, consumer credit and housing loans in the EU28 was mainly driven by France, Germany and the Netherlands.

2017 has been a crucial year for loans to NFCs: for the first time since 2010, the EU28, the EU15 and the EA19 have experienced positive real growth in outstanding loans to NFCs, bringing to an end a seven-year contractionary period. While a positive sign, caution is appropriate as positive growth remains weak and limited to few countries. Germany, France and Sweden, in particular, are the countries that contributed the most to the trend reversal.

This paper analyses all of the above in further detail, providing the reader with a granular representation of European credit market developments in 2017. The discussion breaks down the data by country group, by individual countries, by currency, and by maturity. Furthermore, lending is analysed in terms of real levels, real year-on-year growth, per capita level, as a percentage of gross disposable income, and as a percentage of GDP. Each section also includes a discussion of sigma and beta convergence in relative measures of credit within country groups. Finally, the paper concludes with a regression analysis of the drivers of European lending markets, using data for the 1995-2017 period.

Consolidation in European Credit Markets

Data from the ECRI Statistical Package 2018 confirms the consolidation trend in European credit markets: after the trend reversal in 2015, total lending to households and NFCs in the EU28 has continued to grow in 2016 and 2017 (Figures 1 and 2).

In particular, the total outstanding credit in the EU28 has grown by 0.8% in 2017 in real terms, accelerating the recovery process compared to the 0.6% growth rate of 2016. Despite this, the 2017 real level of total outstanding credit still falls short of its pre-crisis level, being 9.1% lower than the 2008 peak. A similar pattern emerges from analysing the total credit granted by MFIs in the EU15 and the EA19. The EU15 2017 level is 10% smaller than in 2008, but in 2017 total lending increased by 0.9%, compared to 0.6% in 2016. Similarly, total lending in the EA19 at the end of 2017 was 9.5% smaller than at the end of 2008; real growth in 2017 accelerated to +1.5% from the +0.04% growth rate of 2016. New member states, however, follow a different pattern. Total lending in the NMS is 16.3% higher in 2017 than in 2008; this is reduced to 9.3% if Hungary and Latvia are left out (since 2008 data for these countries is not available). Despite this positive fact, the NMS have halted their consolidation process, as they returned to negative growth in 2017 (-0.2%).

Relatedly, the process of convergence of the NMS towards the rest of EU member states (i.e. EU15) in total lending as a percentage of GDP, which has been almost uninterrupted since 2008, came to a halt in 2017. Figure 3 shows the standard deviation between total outstanding lending as a percentage of GDP in the EU15 and in the NMS: it increased in 2017 (i.e. divergence occurred).

Figure 1. Total outstanding lending to households and NFCs, 2007-2017, in real terms (billion euros, 2005 prices)

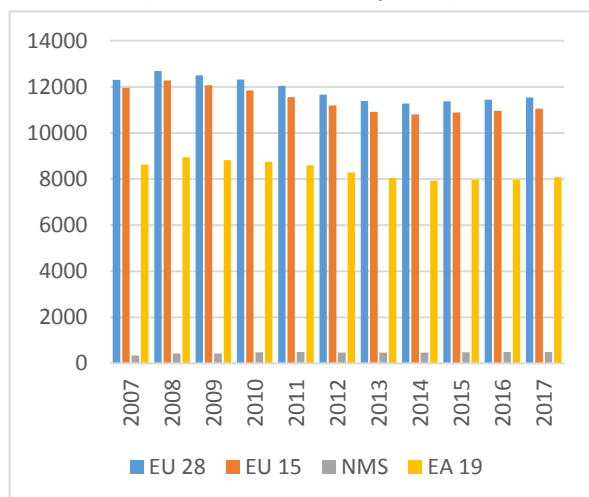


Figure 2. Year-on-year growth (%) in total outstanding lending to households and NFCs, 2007-2017, in real terms (euros)

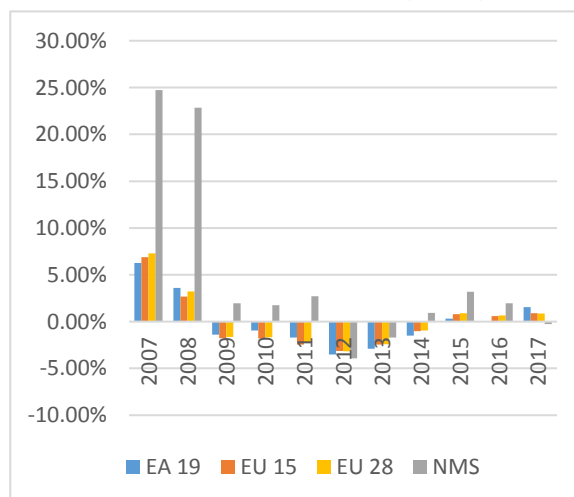
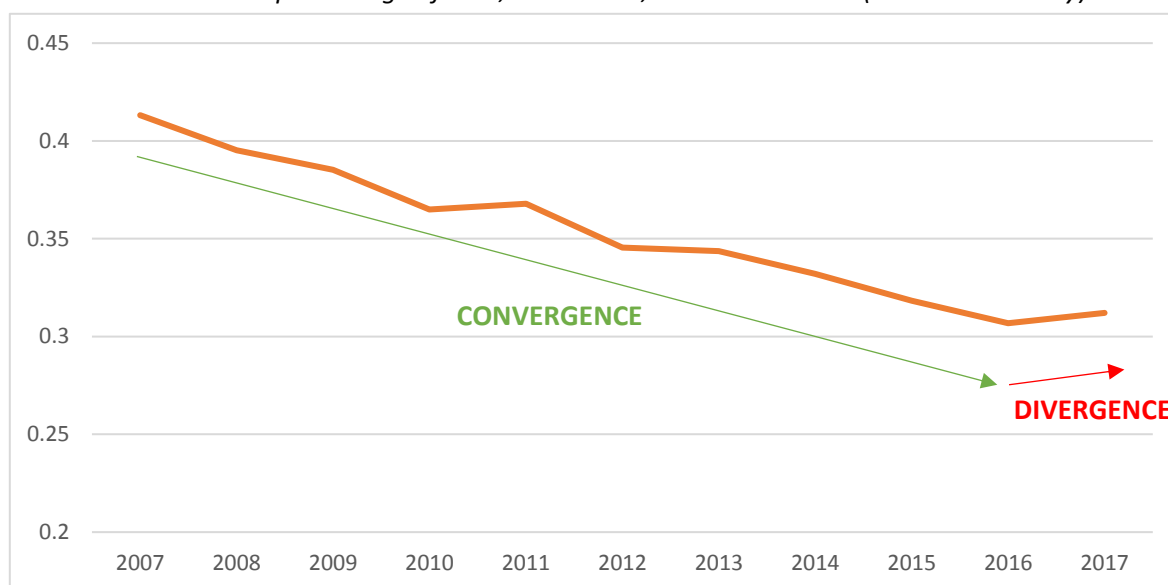


Figure 3. Standard deviation between EU15 and NMS average total outstanding lending to households and NFCs as a percentage of GDP, 2007-2017, in nominal terms (national currency)

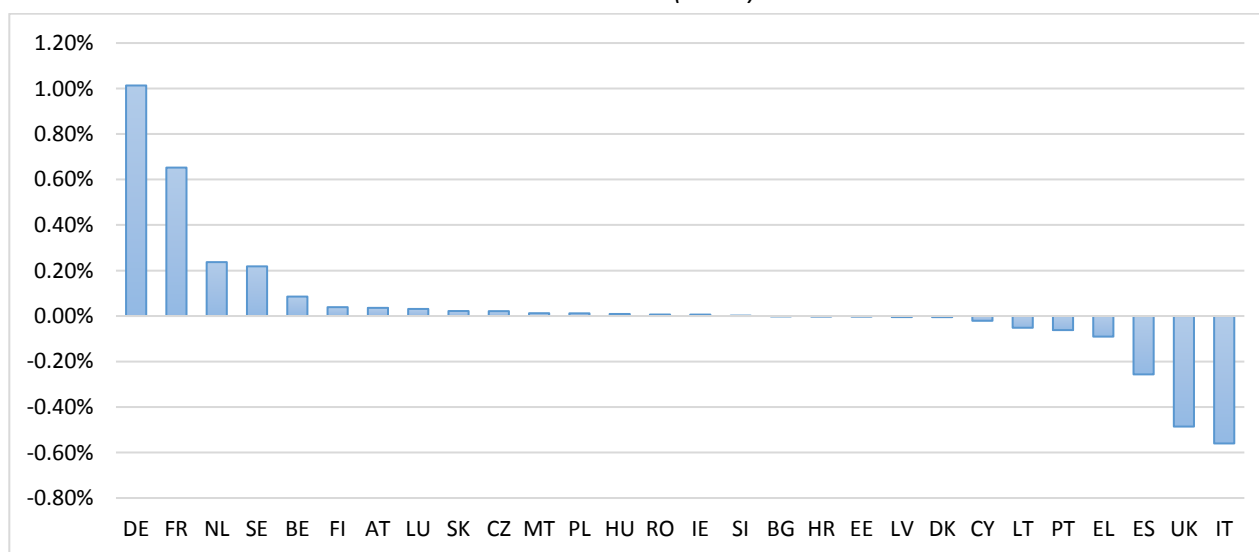


Source Fig. 1-3: ECRI Statistical Package 2018.

The 0.8% increase in total outstanding credit that the EU28 experienced in 2017 can be disaggregated by examining each country's contribution to it. This is calculated for each state according to the following formula: $(x_{c,2017} - x_{c,2016})/x_{EU28,2016}$ where x is total credit to households and NFCs in billion euros (at constant 2005 prices), c is the country, and EU28 is the aggregate level. According to this measure, Germany, France, the Netherlands and Sweden have been the main drivers of EU28 growth. Instead, Italy, the UK and Spain have been the worst performers, contributing negatively to EU28 growth in 2017 (Figure 4).

It is useful to remember that fluctuations in exchange rates are controlled for, since the measures are indexed at 2005 prices, and the exchange rate used for conversion to euros is constant for each country at the exchange rate level the country's currency enjoyed against the euro at the end of 2005.

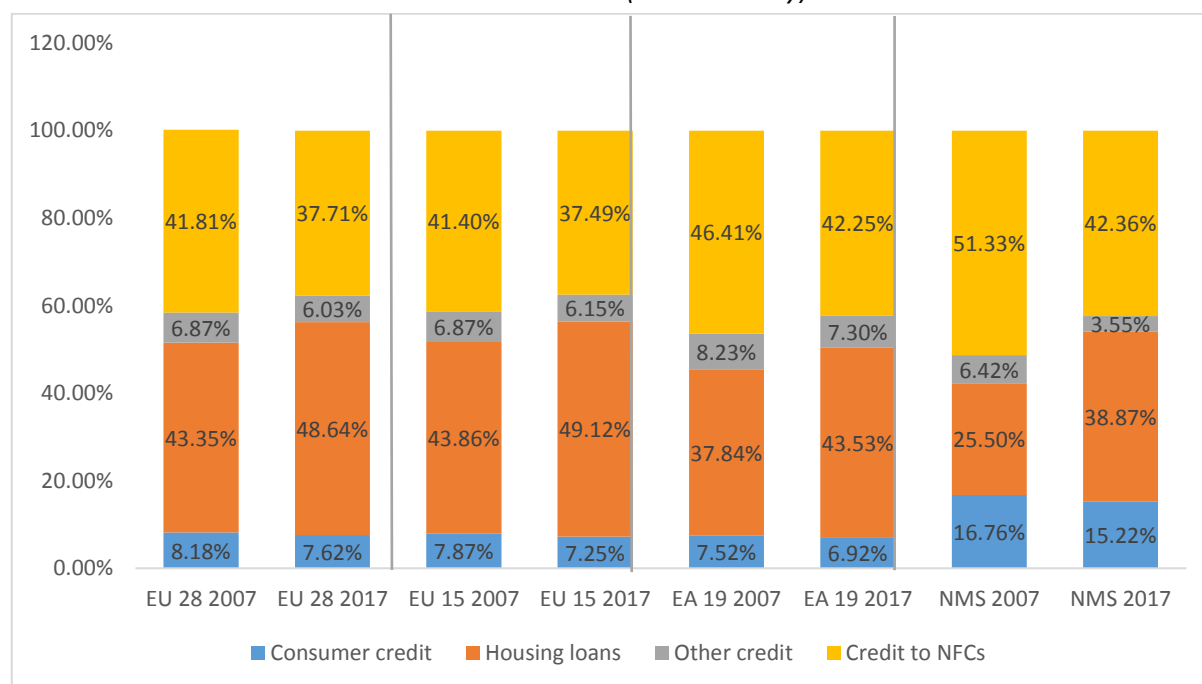
Figure 4. States' contribution to EU28 growth in 2017 in total credit to households and NFCs, in real terms (euros)



Source: ECRI Statistical Package 2018.

The total credit granted by MFIs can be divided by type into credit to households and credit to NFCs. The first category can be further disaggregated into consumer credit, housing loans, and other credit. Comparing the percentage distribution of total credit to households and NFCs by type in 2007 to that of 2017, it can be noticed that in all country groups consumer credit, other credit and credit to NFCs have become relatively smaller, while housing loans nowadays account for a larger share of total credit in all country groups (Figure 5). A disaggregated analysis of developments in these types of credit is presented in the following sections.

Figure 5. Distribution of credit to households and NFCs by type in 2007 and 2017, by percentage, in nominal terms (local currency)



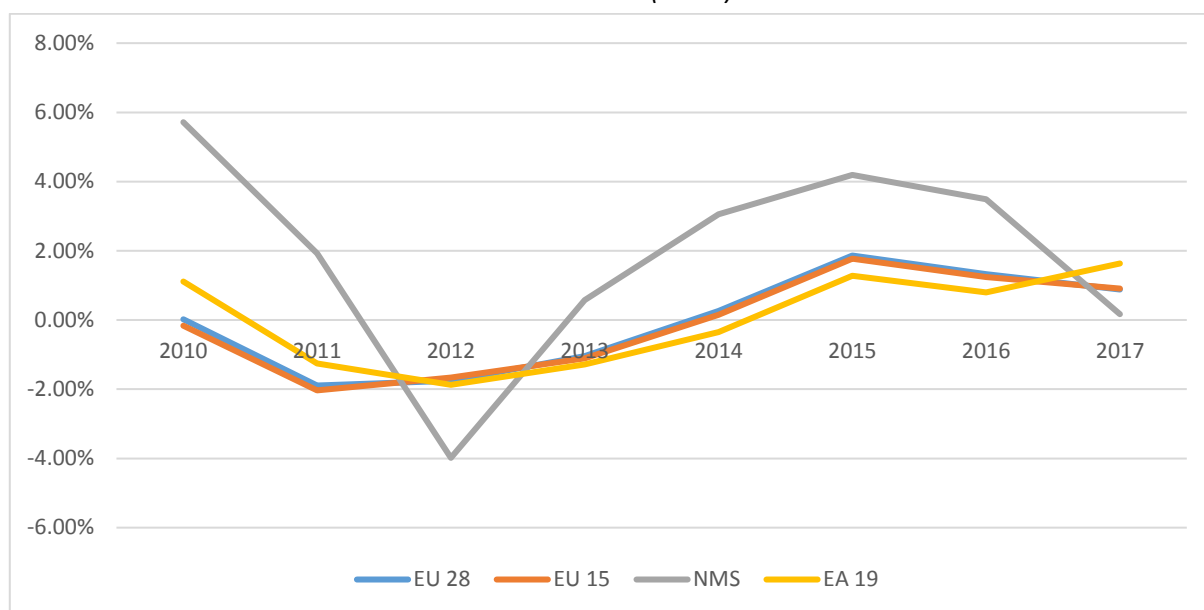
Source: ECRI Statistical Package 2018.

Lending to Households in Europe

According to the European System of Accounts, total lending to households comprises consumer credit, housing loans and other loans. In 2017, lending to households accounted for 62.3% total credit granted by MFIs in the EU28, up from the pre-crisis 58.2% share in 2007. This has been largely driven by a relatively large expansion of housing loans, and a relatively large shrinkage of loans to NFCs. A similar pattern applies to the other country groups.

In 2017, total credit to households has continued to expand in all country groups, but at a slower pace than in the previous two years, especially in the NMS (Figure 6). In 2017, total households lending increased by 0.9% in the EU28 in real terms, compared to 1.3% growth rate in 2016. In the NMS, it increased only by 0.2%, a significantly lower rate than the 3.6% average growth rate for the period 2014-2016. This is the first time since 2013 that the NMS have performed worse than the other country groups in growth terms. The EA19 stands out as an exception, as it experienced stronger growth in 2017 than in 2016 (1.6% compared to 0.8%).

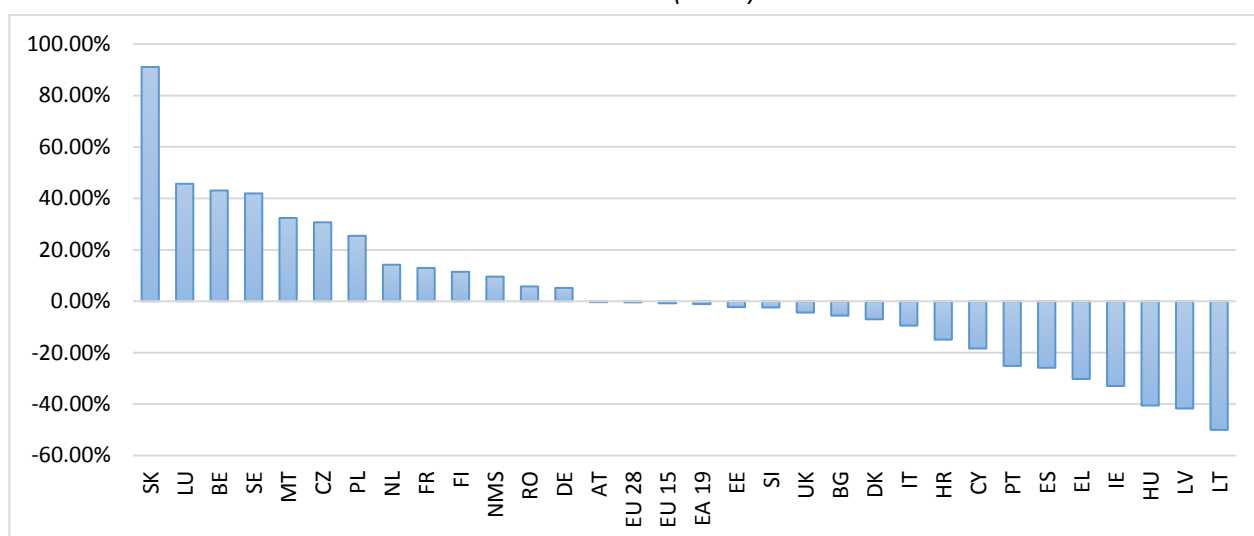
Figure 6. Year-on-year growth in total outstanding lending to households, 2010-2017, in real terms (euros)



Source: ECRI Statistical Package 2018.

Significantly, all country groups have recovered to the pre-crisis 2007 level (or very close to it, in the case of the EU15). However, when comparing the total amount of outstanding credit to households in 2017 to the 2010 peak (Figure 7), only the NMS are above the peak: in 2017, total lending to households was 9.6% higher than in 2010 for the NMS, whereas it was 0.4%, 0.8% and 1.1% lower for the EU28, EU15 and EA19 respectively. At a more granular level, Figure 7 shows the percentage difference between the 2017 and the 2010 level of lending to households in each member state country: at the end of 2017, 16 countries were still below their 2010 level.

Figure 7. Percentage difference in total lending to households, between 2017 and 2010, in real terms (euros)



Source: ECRI Statistical Package 2018.

At the aggregate EU28 level, the 0.9% growth of total lending to households in 2017 can be disaggregated by state contribution (Figure 8). By adopting the same formula as above, France, the Netherlands, Germany and Sweden stand out as the largest contributors, while the UK, Italy, Spain and Greece appear as the countries that slowed down aggregate performance the most. When considering the NMS only (Figure 9), Slovakia, the Czech Republic and Romania are the best performers, while Lithuania, Poland and Cyprus the worst ones.

Figure 8. States' contribution to EU28 growth in 2017 in total credit to households, in real terms (euros)

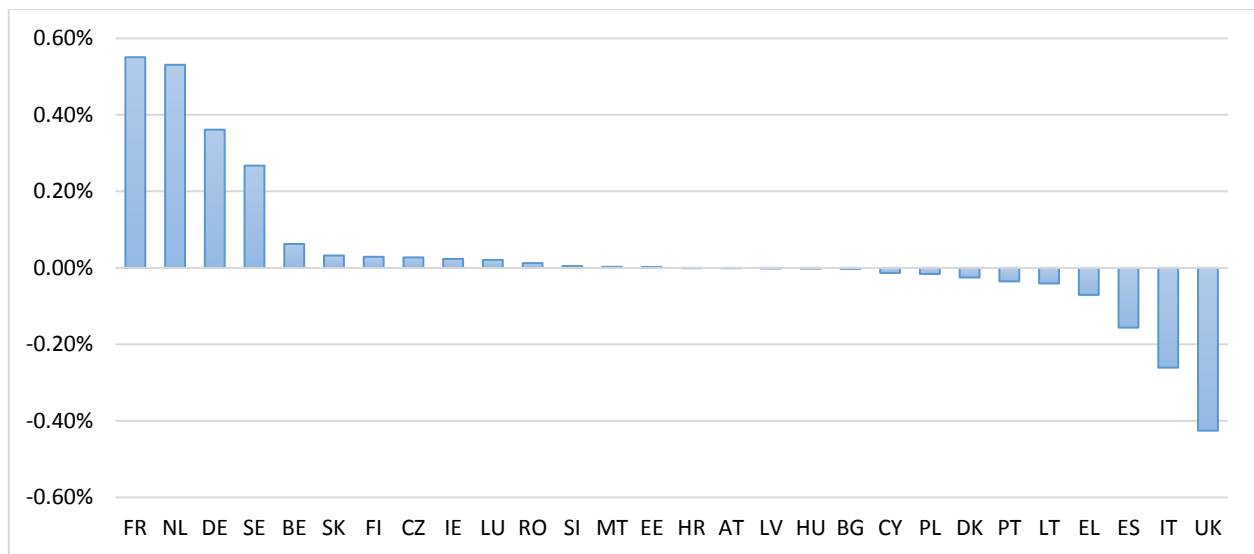
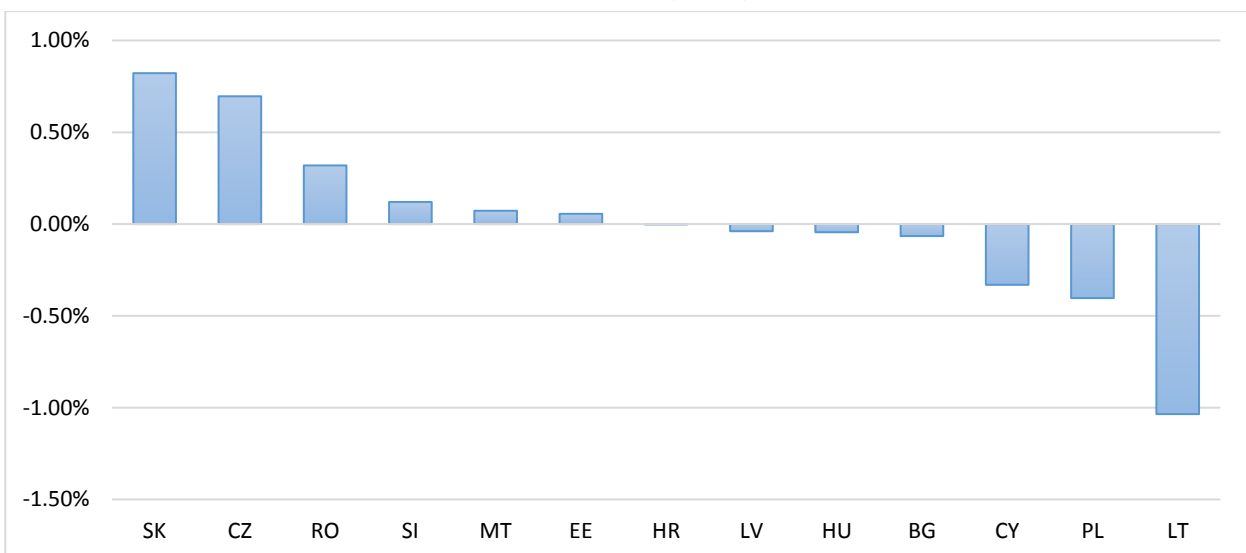


Figure 9. States' contribution to NMS growth in 2017 in total credit to households, in real terms (euros)



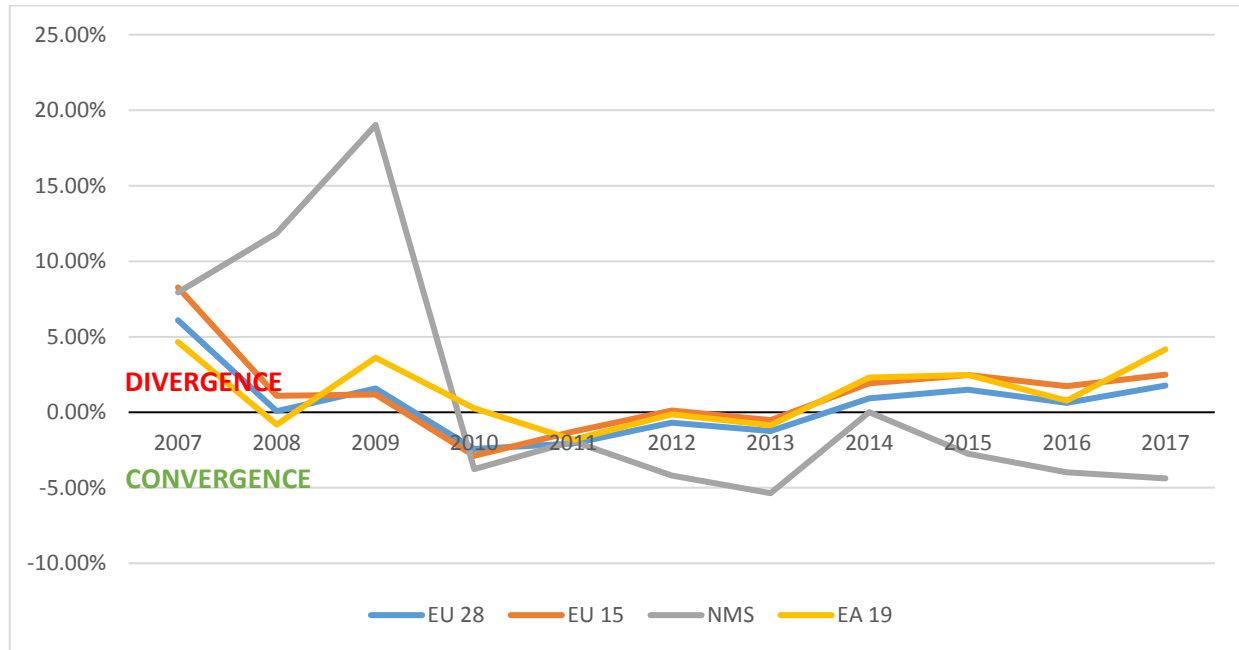
Source Fig. 8-9: ECRI Statistical Package 2018.

Looking at the convergence of total credit to households per capita, in real terms, within the country groups, slower divergence can be noticed for all country groups except the NMS since the financial crisis, and convergence for all country group since the debt crisis. However, while the NMS have continued to

converge towards one another since 2010, the countries that make up the EU15, the EA19 and the EU28 have started to diverge again from one another since 2014.

Figure 10 shows the percentage year-on-year change in the standard deviation of total credit to households per capita within each country group. A positive change represents divergence, i.e. the standard deviation of the values for countries within the group has increased; and vice versa, a negative change represents convergence.

Figure 10. Year-on-year percentage change in standard deviation of credit to households per capita within selected country groups, 2007-2017, in real terms (euros)



Source: ECRI Statistical Package 2018.

The discussion above focuses on sigma convergence, i.e. the process by which dispersion in a given measure is reduced overtime. Beta convergence is instead the process by which countries that are further behind in a given measure grow faster. In our case, if beta convergence holds, countries with a relatively low level of credit to households per capita in 2007 are expected to be the ones that grew the fastest on this measure between 2007 and 2017. That is, a negative relationship between initial level and 2007-2017 growth is expected.

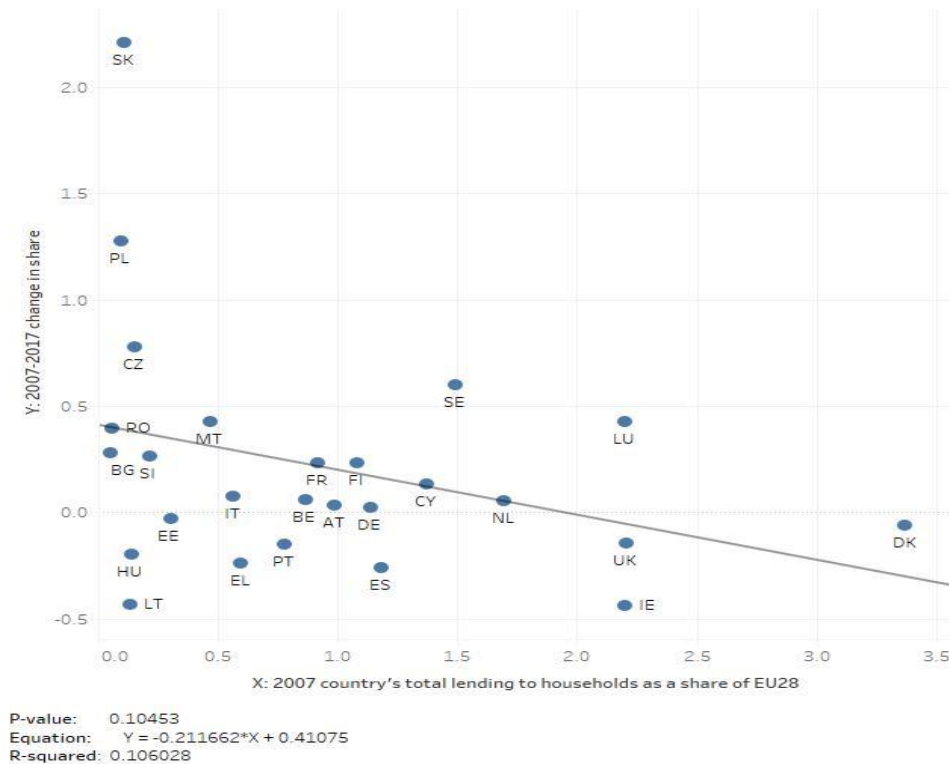
In Image 1, the horizontal axis measures the 2007 country's total credit to households per capita as a share of the EU28 aggregate level, following the formula $X_{C,2007}/X_{EU28,2007}$ where X is the indicator (in this case total credit to households per capita), C is country in year 2007, and EU28 is the aggregate for all EU member states. On the vertical axis, instead, the image plots the change in shares between 2007 and 2017,

according to the formula
$$\frac{\left(\frac{X_{C,2017}}{X_{EU28,2017}}\right) - \left(\frac{X_{C,2007}}{X_{EU28,2007}}\right)}{\frac{X_{C,2007}}{X_{EU28,2007}}}$$

Image 1 shows the negative relationship between the original situation and the subsequent growth, as expected: countries such as Bulgaria, Slovenia, and Malta that started with a relatively low total credit to households per capita experienced stronger growth than countries such as the Netherlands, the UK and Denmark. While the R-squared, which measures the fit of the data, is relatively small (0.11), the beta-convergence negative association is statistically significant at the 10% level.

Slovakia is an outlier given its outstanding growth rate in total credit to households per capita. The International Monetary Fund (2017) explains such sustained growth, funded by domestic deposits, in terms of financial deepening starting from a low base, falling interest rates on mortgage loans, robust labour market performance, and legislative changes imposing limits on early mortgage repayment fees. The IMF report finds Slovakian banks profitable, well-capitalised and with healthy balance sheets. However, it also indicates that vulnerabilities are building up: tight interest margins, the burden of the special levy on bank profits, fast-growing exposure to households, a large and growing amount of loans with a loan-to-value ratio around 90% and an increasing share of non-performing loans. Hence the necessity for prudential policies, as these factors make banks vulnerable to interest rate increases and to a slowdown in economic activity. Slovakia has already adopted micro- and macro-prudential measures, such as the introduction of tighter loan-to-value ratios and the introduction of systemic risk buffers in 2017. The report however suggests that further measures might need to be implemented, such as increasing the risk weights on mortgage loans with high loan-to-value ratios, and reducing the maximum loan-to-value limit.

Image 1. Beta convergence in total credit to households per capita in the EU28, in real terms (euros)



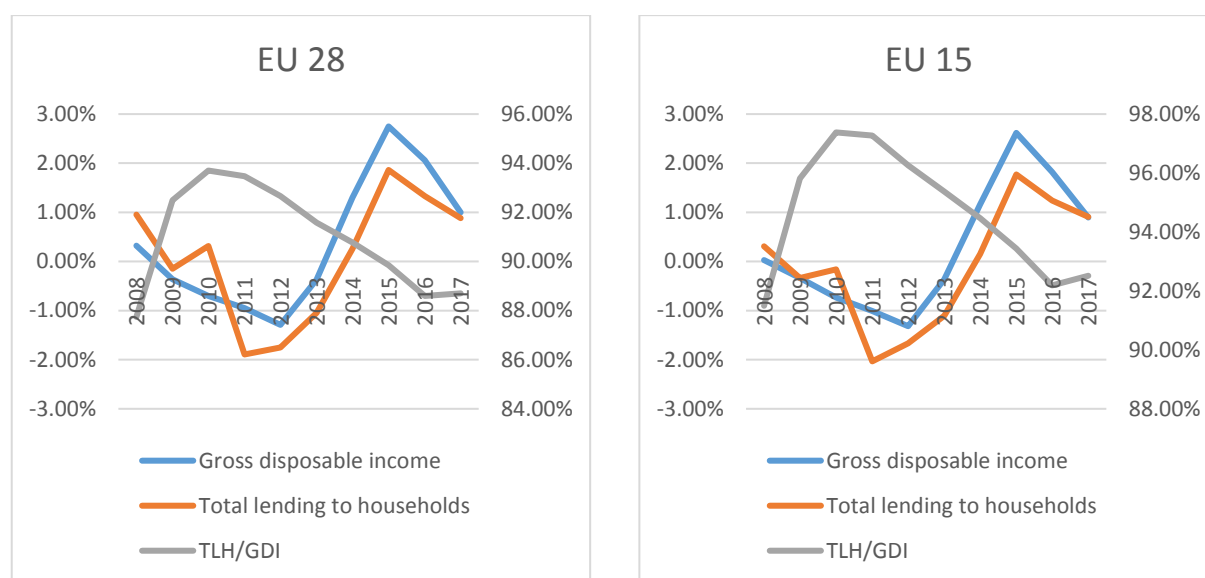
Source: ECRI Statistical Package 2018.

EU household indebtedness can be approximated by looking at total credit to households as a percentage of disposable income. The level of indebtedness of households in the EU28 has remained stable in 2017 compared to the previous year, around 89%. Similarly, the values for the other country groups remained stable in 2017, at 92% for the EU15, 81% for the EA19, and around 45% for the NMS. Only the NMS have reached (and surpassed) the pre-crisis 2007 ratio, which for the NMS was 36%.

The EU28, EU15 and EA19 displayed a lower ratio in 2017 than in 2007. The reason for a lower ratio in these country groups is that gross disposable income has consistently grown faster than total lending to households since 2011 (Figures 11a, b, c, d). The two measures have instead grown in a much closer way in the NMS.

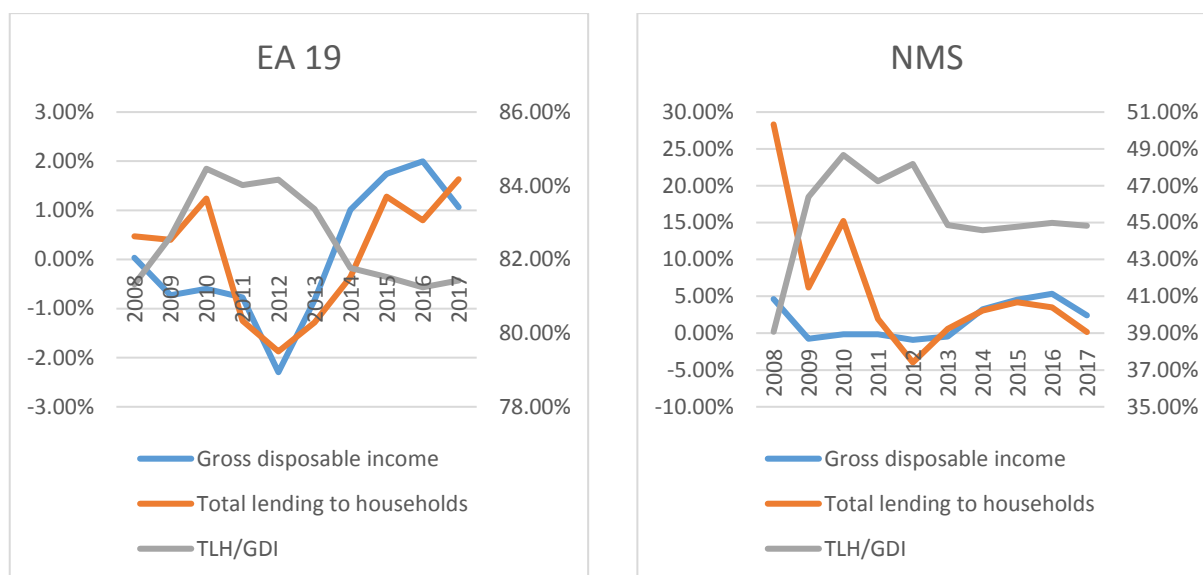
As far as the EA19 is concerned, the Euro Area Bank Lending Survey¹ for the fourth quarter of 2013 (ECB, January 2014), reported a positive net tightening of credit standards² for all quarters between 2011 and the end of 2013. A net tightening means that the banks experiencing a tightening of their own credit standards outnumbered the banks experiencing an easing of them. The main factors contributing to the tightening mentioned by euro area banks were costs related to their capital position, access to market funding, expectations of the general economic activity, credit worthiness of consumer (for consumer credit), and housing market prospects (for housing loans). The respondents also indicated that, over the same period (2011-2013), regulatory and supervisory action on banks was a critical factor in the net decrease in risk-weighted assets and in the net tightening of their funding conditions. The euro area banks, however, also reported a negative net demand for loans to households (i.e. there were more banks experiencing a decrease in demand for loans than banks experiencing an increase). The main drivers of reduced demand mentioned in the report were housing market prospects, consumer confidence and household savings.

Figure 11a, b, c, d: Year-on-year percentage change in gross disposable income and total lending to households in country groups, 2008-2017, in real terms, euros (left axes); Total lending to households as a percentage of gross disposable income (TLH/GDI) in country groups, 2008-2017, in nominal terms, national currency (right axes)



¹ The BLS is conducted by the ECB four times a year. It is addressed to senior loan officers of a representative sample of euro area banks. The sample group comprises around 140 banks from all euro area countries. Results therefore represent the perceptions of banks.

² Credit standards are defined in the BLS as “the internal guidelines or loan approval criteria of a bank. They are established before the negotiation on the terms and conditions of a loan begins and the loan application is approved or rejected”.



Source: ECRI Statistical Package 2018.

Consumer Credit

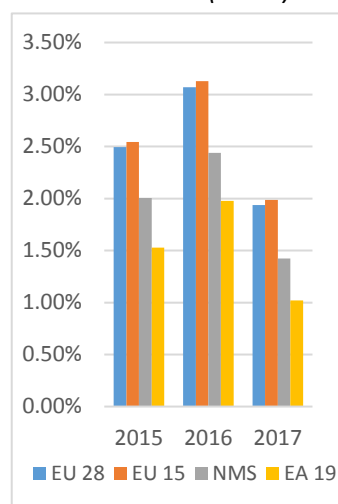
Accounting for around 12% of total credit to households in the EU28 and the EA19, and for 26% in the NMS, consumer credit includes credit card loans, car loans, and other loans for durable consumption.

After a long period of contraction, the trend reversed in 2015 as consumer credit started growing again. In 2017 specifically, growth in consumer credit, despite remaining positive, has slowed down for all country groups compared to growth in 2016, remaining at its lowest level since 2015 (Figure 12). Consumer credit in the EU28 grew by 1.9% in 2017 (compared to 3% in 2016), by 1% in the EA19 (compared to 2% in 2016), and by 1.4% in the NMS (compared to 2.4% in 2016).

As far as the EA19 is concerned, the decrease in consumer credit growth has been mainly driven by lower risk tolerance in bank lending policy. The ECB's Euro Area Bank Lending Survey for the first quarter of 2018 (ECB, April 2018) shows that banks mentioned decreased risk tolerance as a factor contributing to tightening of credit standards in 2017. Furthermore, the decreased cost of funds and balance sheet constraints that reportedly played a crucial role in 2016 in the easing of consumer credit standards does not appear as a driving factor in any quarter of 2017.

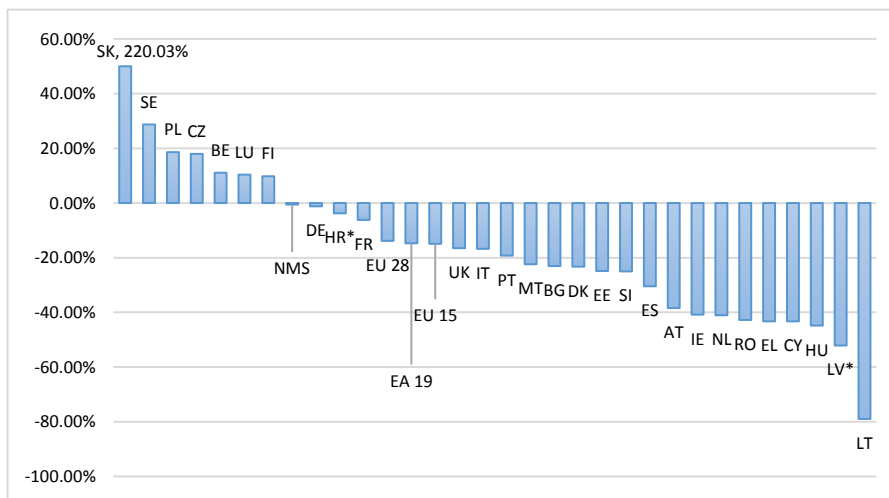
The slow-down in consumer credit growth is significant, especially considering that only seven EU countries reached or surpassed their 2008 level (Slovakia, Sweden, Poland, Czech Republic, Belgium, Luxembourg and Finland). Among country groups, the NMS are close to restoring their pre-crisis levels (the 2017 level is only 0.6% short of the 2008 one), while the negative gap is larger for EU28, EA19 and EU15 (all between 14% and 15%) – Figure 13.

Figure 12. Year-on-year growth (%) in consumer credit, 2015-2017, in real terms (euros)



Source: ECRI Statistical Package 2018.

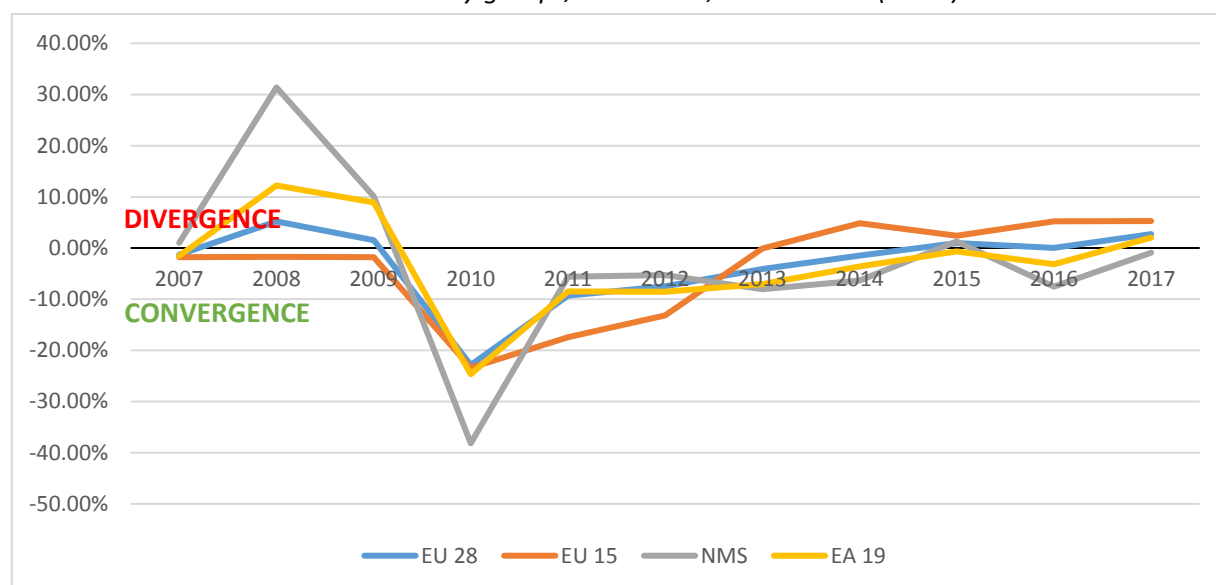
Figure 13. Percentage difference in consumer credit, between 2017 and 2008, in real terms (euros)



Note: The comparison for HR and LV is between 2017 and 2010, due to data availability.
Source: ECRI Statistical Package 2018.

2015 is not only the positive trend reversal point for EU28 consumer credit growth, it is also the year in which EU countries started diverging again in the level of consumer credit per capita. Figure 14 shows the percentage change in the standard deviation of consumer credit per capita within country groups. A positive value represents divergence, and vice versa. After a sharp switch into convergence in 2010 for all country groups, convergence slowed down from 2011, and then stopped: the EU15 started diverging again in 2014, the EU28 in 2015, and the EA19 in 2017. The NMS, in contrast, are still converging as of 2017.

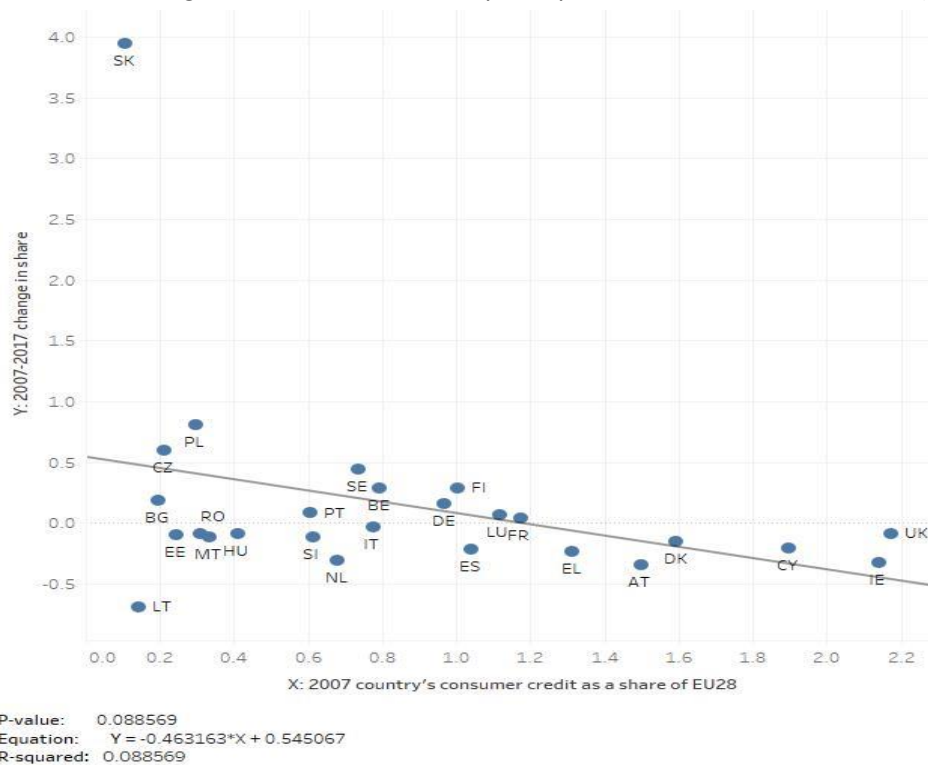
Figure 14. Year-on-year percentage change in standard deviation of consumer credit per capita within selected country groups, 2007-2017, in real terms (euros)



Source: ECRI Statistical Package 2018.

Following the same formulae and theoretical framework as in the discussion on total credit to households per capita, Image 2 shows the extent to which beta convergence has occurred in the EU28 over the 2007-2017 period. Slovakia stands out for its sustained growth, for reasons already discussed above. Once again, the R-squared is small (0.09), but the negative relationship arises and is statistically significant at the 10% level.

Image 2. Beta convergence in consumer credit per capita in the EU28, in real terms (euros)



Source: ECRI Statistical Package 2018.

The analysis of consumer credit can be further explored by looking at the distribution of consumer credit by currency. Data is available for 13 EU countries. Figure 15 (left axis) gives an overview of the consumer credit distribution in these countries: Romania stands out for its 26% share of consumer credit denominated in foreign currencies. Bulgaria follows with an 8.1% share.

It is interesting to note that among the five countries with the highest share of foreign currency-denominated consumer credit, only one adopts the euro as its currency (Austria). The relatively high percentage of the other non-EA countries can be explained in terms of 'euroisation', that is, the process of a country unilaterally adopting the euro as its working currency (in this case it does not refer to the government or the central bank, but to the private sector). This phenomenon is especially critical for those countries such as Romania and Bulgaria that have the intention to adopt the euro formally soon. Figure 16 shows the distribution of consumer credit by currency in Romania and Bulgaria in 2017, highlighting the significance of euro-denominated consumer credit, compared to other foreign currencies. Among other currencies, the Swiss Franc has often been adopted to denominate loans in these countries.

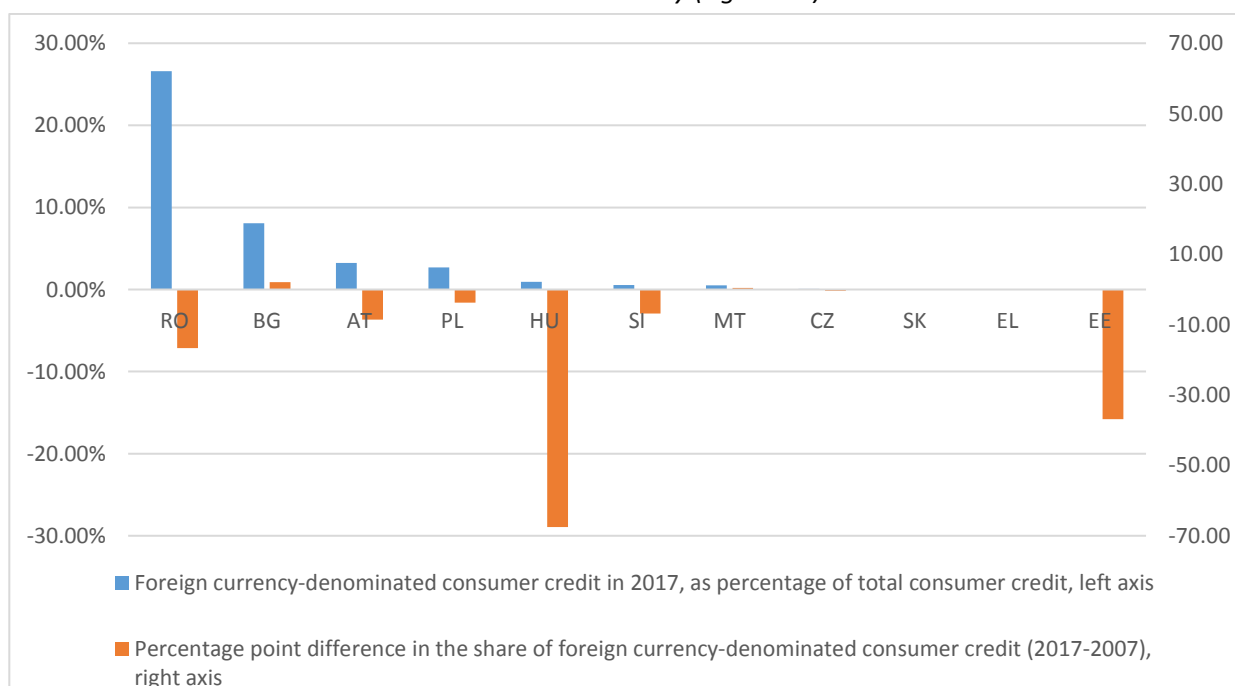
While only data for 2017 is presented here, this phenomenon has been a long-standing one. A study conducted by the European Bank for Reconstruction and Development (EBRD, Brown and De Haas, 2010) on the basis of the "EBRD Banking Environment and Performance Survey", explores the drivers of foreign currency (FX) lending in 20 transition countries. The paper disputes the idea that FX lending is driven by foreign-owned banks as a result of their easier access to cross-border wholesale funding. Instead, it finds the macroeconomic environment to be the critical factor: domestic macroeconomic instability (measured

in terms of interest rate differential and inflation volatility) affects both domestic-owned and foreign-owned banks, leading them to expand FX lending, as a way of transferring most of the risk associated with macroeconomic volatility onto the borrowers.

Figure 15 (right axis) presents the percentage point difference in the share of foreign currency-denominated consumer credit between 2007 and 2017 for these countries. The Hungarian share of foreign currency-denominated consumer credit decreased from 68% to 1%. This remarkable 67-point change in the Hungarian consumer credit market structure occurred mostly in 2015, when foreign-currency-denominated consumer credit went from €4.9 billion (2005 constant prices) to only €0.1 billion (2005 constant prices), hence shrinking from being 56% of total consumer credit to only 1%. The structural break in 2015 was the result of a law passed by the Hungarian parliament in 2015 obliging banks to convert credit loans from foreign currency to forint loans (a similar law for housing loans was passed in 2014). Given that the majority of foreign currency-denominated consumer loans in Hungary at the time were denominated in Swiss Francs, the Swiss National bank's decision in January 2015 to abandon the exchange rate cap against the euro (and the resulting stark appreciation of the Swiss currency against the euro and also other currencies) arguably represented a critical factor.

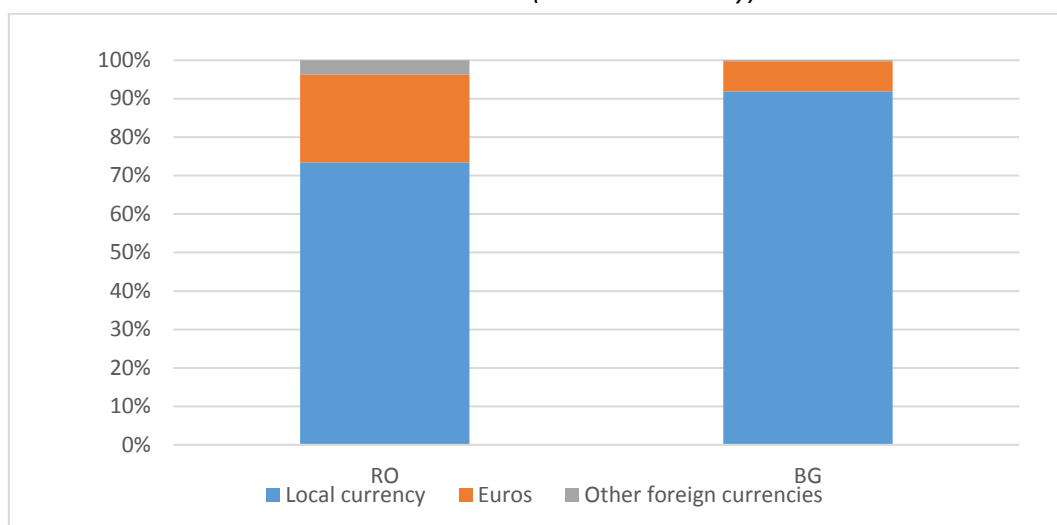
Romania adopted a similar approach in December 2016, when the parliament passed a bill allowing the conversion of Swiss Franc-denominated loans into Romanian Leu-denominated loans. The 37-point change in Estonia, on the other hand, is fully attributable to Estonia's formal adoption of the euro in 2011: all the euro-denominated loans that were categorised as foreign-currency denominated until 2010 were categorised as local currency-denominated loans from 2011. Only Malta and Bulgaria show a positive (yet very small) difference, meaning that the share of consumer credit denominated in foreign currencies has slightly increased between 2007 and 2017.

Figure 15. Foreign currency-denominated consumer credit in 2017 as a percentage of total consumer credit, in nominal terms, in national currency (left axis); percentage point difference in the share of foreign currency-denominated consumer credit, between 2017 and 2007, in nominal terms, in national currency (right axis)



Source: ECRI Statistical Package 2018.

Figure 16. Consumer credit by currency (percent distribution), selected countries, in 2017, in nominal terms (national currency)



Source: ECRI Statistical Package 2018.

Housing Loans

Accounting for 78.1% of the total credit to households in the EU28, housing loans are a critical component of credit markets. The EU15 and the EA19 show similar percentages, while housing loans in NMS account for 67.4% of total credit to households.

Housing loans have proven remarkably stable in the aftermath of the crisis, during the 2008-2014 period. Furthermore, real growth in housing loans has been positive in all country groups since 2015, although it slowed down progressively in 2016 and 2017 (Figure 17). Two exceptions stand out: first, the EA19 grew by 2.5% in 2017 (a faster pace compared to 1.1% in 2016); second, the NMS experienced negative growth in 2017 (-0.1%) for the first time since 2012.³ Housing loans in both the EU28 and the EU15 grew by 1.2% in 2017.

Growth in the EU28 was mainly driven by the Netherlands, France and Germany, while the UK and Spain performed the worst (Figure 18). As for the NMS negative growth, Slovakia, the Czech Republic and Romania were the main positive contributors, while Poland, Lithuania and Cyprus the main negative ones (Figure 19).⁴

The relative overall stability of housing loans over the post-crisis period has meant that, as of 2017, only nine EU countries still fall short of their real 2007 level of housing loans (Figure 20). In 2017, the level of housing loans was 4.1% larger than the 2007 level in the EU15, 5.8% in the EU28, and 7.8% in the EA19. Remarkably, the change in the real level of housing loans between 2007 and 2017 is 102.7% in the NMS, driven in particular by sustained growth in Slovakia, Romania and Poland (261.9%, 243.5% and 174.4% respectively). While the remarkably large growth in housing loans in the NMS could be a source of worry, housing loans per capita are still only 30% of the EU28 average, with Slovakia at 36.3%, Poland at 19.8% and Romania at only 5.7% of the EU28 average. Cyprus is the only country in the NMS group that had a level of housing loans per capita larger than the EU28 average in 2017 (Figure 21).

³ Since 2001, the NMS only experienced negative growth in housing loans in 2012 and 2017.

⁴ Contributions by states to growth of groups was calculated using the same formula as in preceding sections.

Figure 17. Year-on-year growth (%) in housing loans, 2015-2017, in real terms (euros)

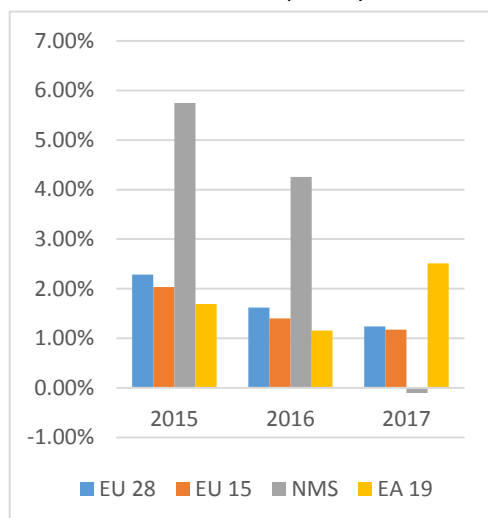


Figure 18. States' contribution to EU28 growth in 2017 in housing loans, in real terms (euros)

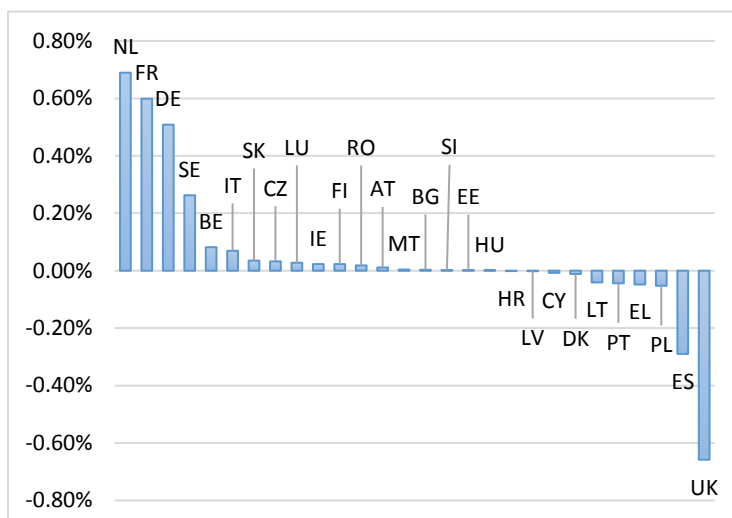


Figure 19. States' contribution to NMS growth in 2017 in housing loans, in real terms (euros)

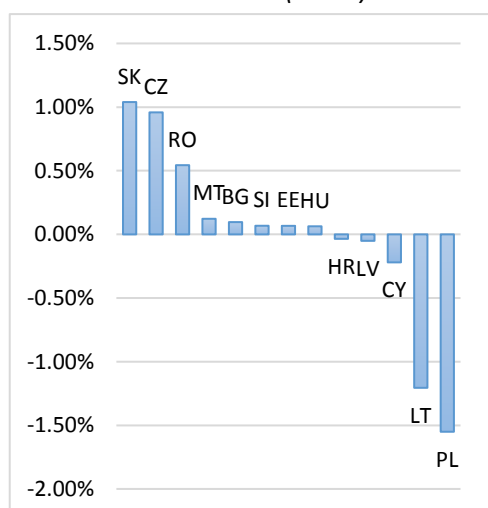


Figure 20. Percentage difference in housing loans, between 2017 and 2008, in real terms (euros)

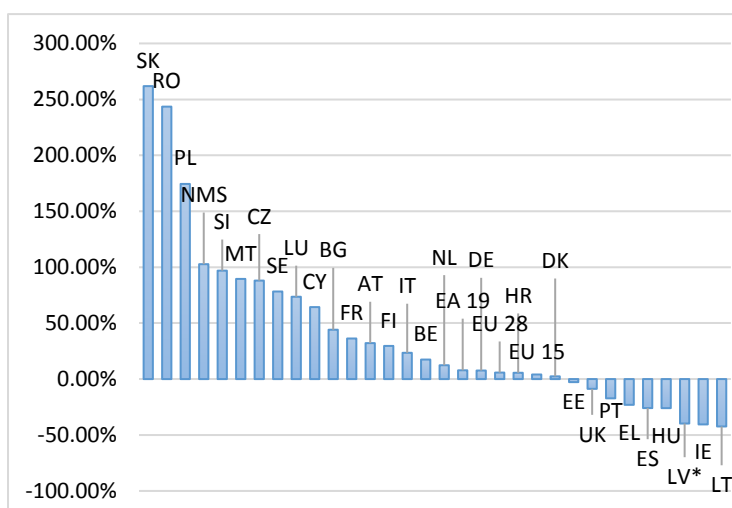
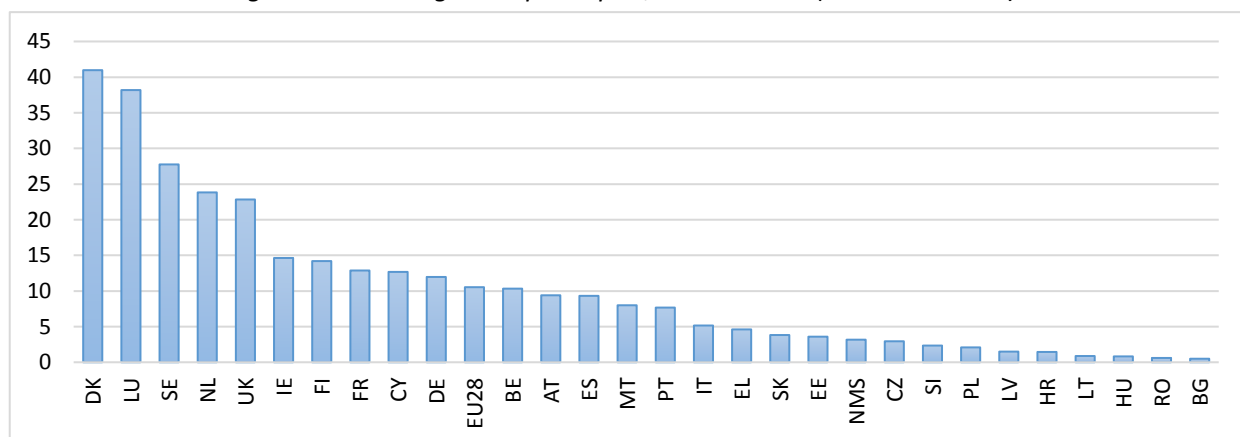


Figure 21. Housing loans per capita, in real terms (thousand euros)

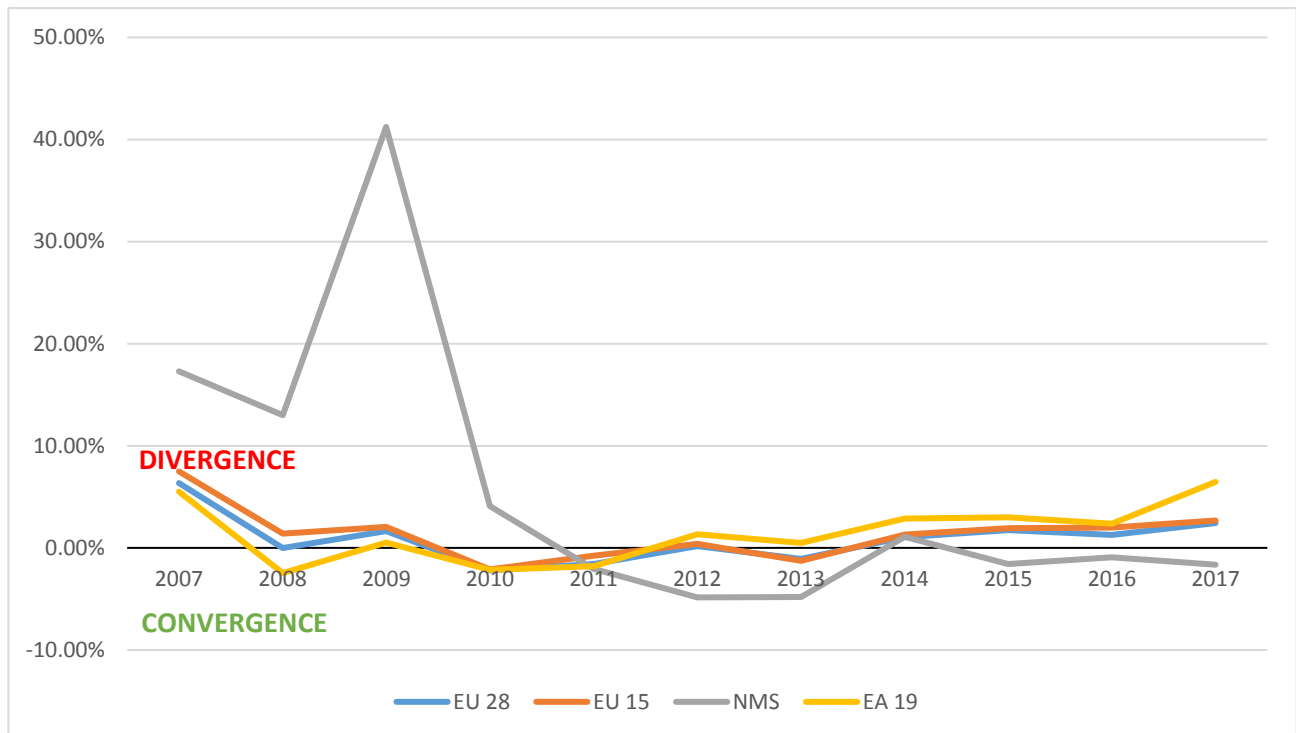


Note Fig. 24: Data for LV refers to the percentage difference between 2017 and 2010, due to data availability.

Source Fig. 21-25: ECRI Statistical Package 2018.

The immediate aftermath of the crisis had a varied impact on country groups, as far as sigma convergence of housing loans per capita within state groups is concerned. In particular, while the EU28, the EU15 and the EA19 diverged very slowly or converged in 2007-2010, the NMS kept on diverging in the same period (with a peak in 2009). Since 2012, however, the situation has reversed: the EU28, the EU15 and the EA19 started to diverge again (especially since 2014), while the NMS have been slowly but consistently converging since 2012 (with the sole exception of minor divergence in 2014) – Figure 22.

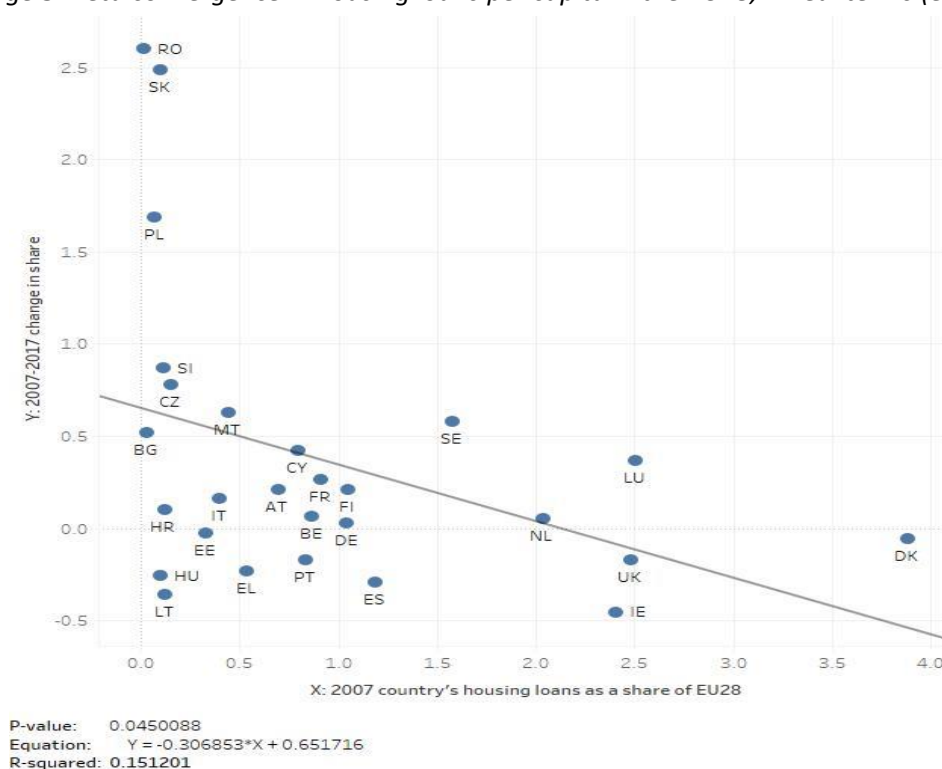
Figure 22. Year-on-year percentage change in the standard deviation of housing loans per capita within selected country groups, 2007-2017, in real terms (euros)



Source: ECRI Statistical Package 2018.

Image 3 below shows the extent to which countries that started at a lower level of housing loans per capita as a share of the EU28 aggregate level grew at a faster pace between 2007 and 2017. The image shows a negative relationship, hence confirming that beta convergence occurred within the EU28 between 2007 and 2017 overall. The R-squared is small (0.15), but larger than in the cases of lending to households and consumer credit. Furthermore, the negative relationship is statistically significant at the 5% level. Romania, Slovakia and Poland stand out for their sustained growth rates.

Image 3. Beta convergence in housing loans per capita in the EU28, in real terms (euros)

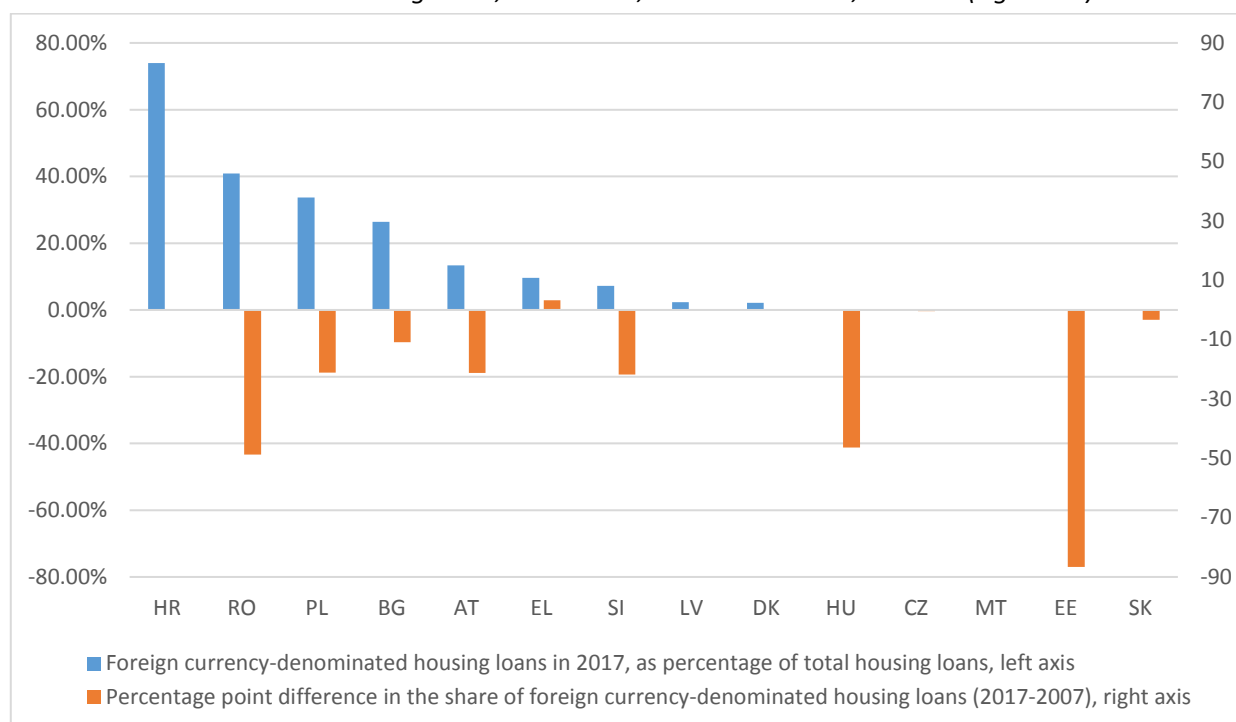


Source: ECRI Statistical Package 2018.

Housing loans granted by MFIs to resident households in EU states can be analysed on the basis of the currency of denomination. The ECRI Statistical Package 2018 has data available for 14 countries. Figure 23 (left axis) shows the share of housing loans that are denominated in foreign currency, for 2017. Croatia, Romania, Poland, and Bulgaria all display values above 20%. The line of explanation for these cases is similar to that given above to explain the currency denomination dynamics of consumer credit: these are non-euro countries that experienced sustained macroeconomic instability, which led banks to prefer extending loans denominated in foreign, safer, currencies.

The regulatory response undertaken by such states resulted in large decreases in the share of foreign currency-denominated housing loans: the percentage point change in the shares is represented in Figure 23 (right axis). Estonia, Romania, Hungary, Slovenia, Austria and Poland all experienced changes larger than 20 percentage points. In the case of Estonia, the 86-point change is attributable to Estonia's adoption of the euro as its currency in 2011.

Figure 23. Foreign currency-denominated housing loans in 2017, as percentage of total housing loans, in nominal terms, in euros (left axis); percentage point difference in the share of foreign currency-denominated housing loans, 2017-2007, in nominal terms, in euros (right axis)



Source: ECRI Statistical Package 2018.

Loans to Non-Financial Corporations (NFCs)

Loans to NFCs accounted for 37.7% of total credit to households and NFCs in 2017 in the EU28. The share increases to 42.4% in the case of the NMS. 2017 was a critical year for loans to NFCs, which turned to positive real growth for the EU28, the EU15 and the EA19 for the first time since 2009, bringing an 8-year contraction to an end.

As far as the EA19 is concerned, the ECB Euro Area Bank Lending Survey for the first quarter of 2018 (ECB, April 2018) reports a net easing of credit standards for loans to NFCs in 2017,⁵ mainly driven by competitive pressure and risk perceptions. Terms and conditions for loans to NFCs were also eased in 2017, mainly owing to a narrowing of margins on average loans. Finally, the net percentage of banks reporting positive demand change was also positive in 2017, with demand being mainly driven by fixed investment, M&A activity and the general level of interest rates.

Despite finally turning into positive territory, however, the real growth of credit to NFCs remains feeble: in 2017, it was 0.8% in the EU28, 0.9% in the EU15, and 1.4% in the EA19; furthermore, the NMS experienced a small contraction in 2017 (-0.8%), following positive growth in 2015 and stagnation in 2016. Figures 24 and 25 show the development of credit to NFCs over time, in levels and in real growth, for the country groups.

⁵ That is, the net percentage of banks reporting tightening credit standards was negative in 2017

Figure 24. Credit to NFCs, 2007-2017, in real terms (billions euros; 2005 prices)

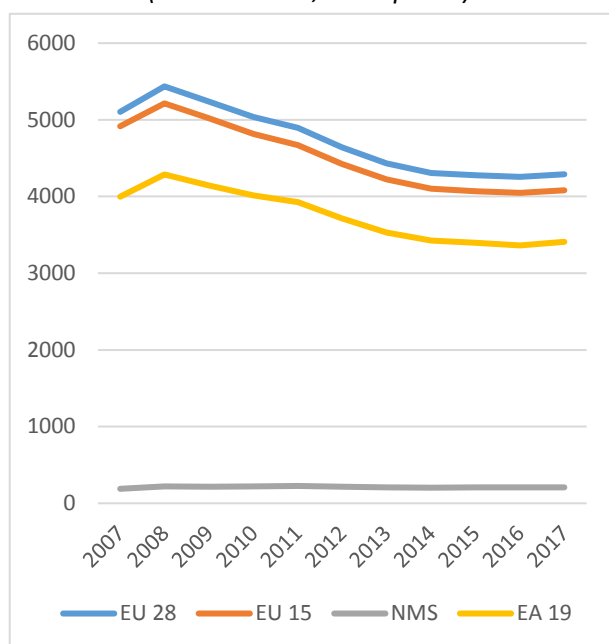
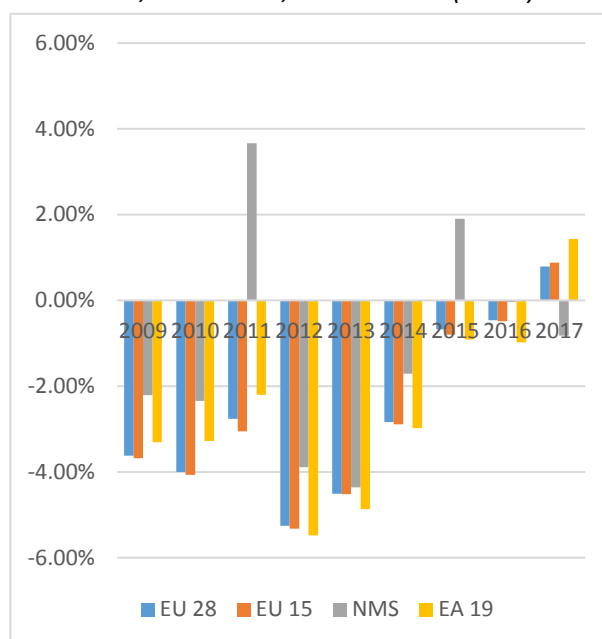


Figure 25. Year-on-year growth (%) in credit to NFCs, 2009-2017, in real terms (euros)



Source: ECRI Statistical Package 2018.

Besides being feeble at the aggregate country group level, real growth in credit to NFCs was only positive for 12 EU member states in 2017; the other 16 countries were still experiencing contractions ranging from -9.7% in the case of Latvia to -0.2% in the case of Bulgaria. In particular, looking at the contributions of individual states to EU28 growth⁶ (Figure 26), most of the positive EU28 growth was driven by Germany (+2.1%) alone, with France following (+0.8%), while Italy showed the worst performance (-1.1%).

This exceptionally negative performance of Italy is the result of a triple-dip recession, coupled with regulatory pressure on banks to reduce non-performing loans, the failing of two banks⁷ and the troubles of the “Monte dei Paschi” bank.⁸ These developments negatively affected the financing capacity of Small and Medium Enterprises (SMEs) in particular.

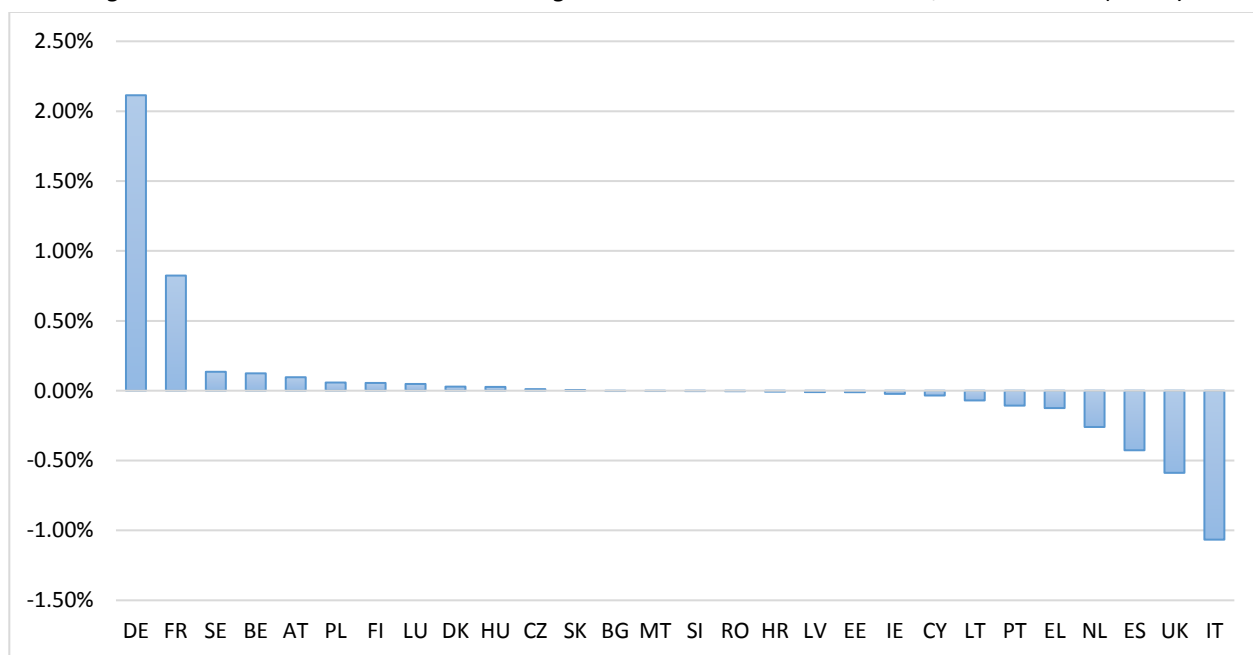
Therefore, while the 2017 trend reversal in credit to NFCs in the EU28 represents a critical positive juncture, caution (and further consolidation) is required.

⁶ States' contributions to groups' growth has been calculated with the same formula as in preceding sections

⁷ Veneto Banca and Banca Popolare di Vicenza.

⁸ Monte dei Paschi di Siena is one of the five largest Italian banks in terms of total assets.

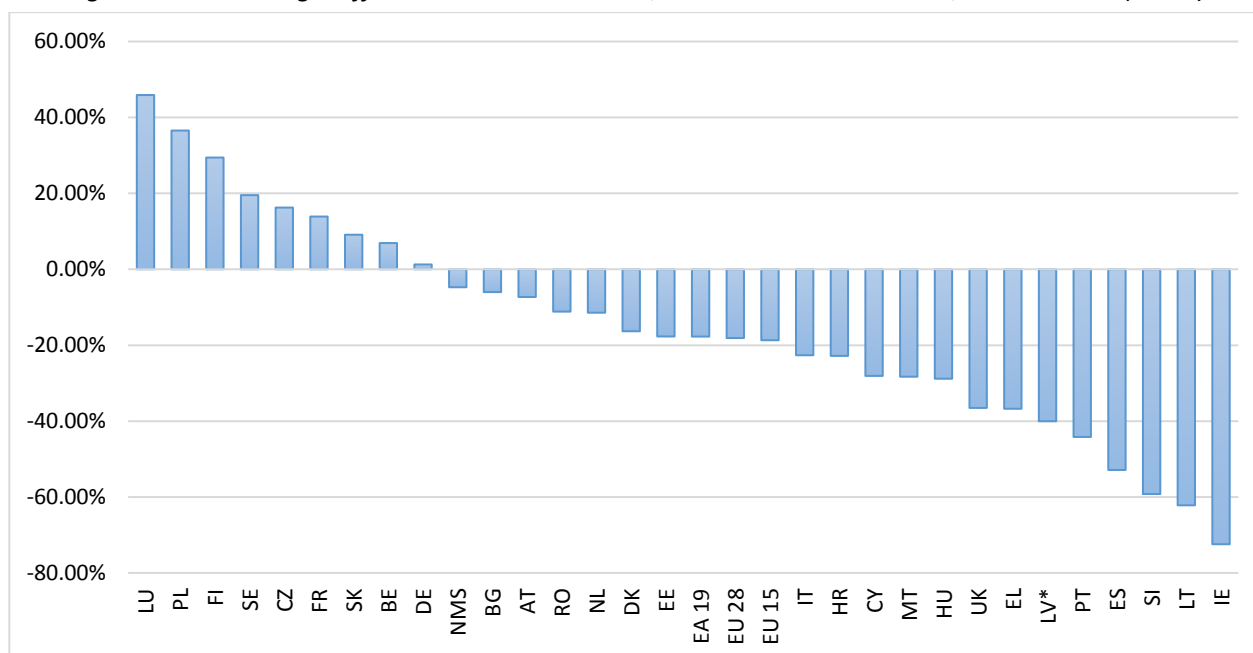
Figure 26. States' contribution to EU28 growth in 2017 in credit to NFCs, in real terms (euros)



Source: ECRI Statistical Package 2018.

Figure 27 shows the percentage difference in credit to NFCs between 2017 and the 2009 peak in the EU member states and in the country groups. Despite the positive news of trend reversal in 2017, it shows the extent of consolidation that is still needed, with the extreme case of Ireland where credit to NFCs has decreased by a total 72.4% since 2009.

Figure 27. Percentage difference in credit to NFCs, between 2017 and 2009, in real terms (euros)

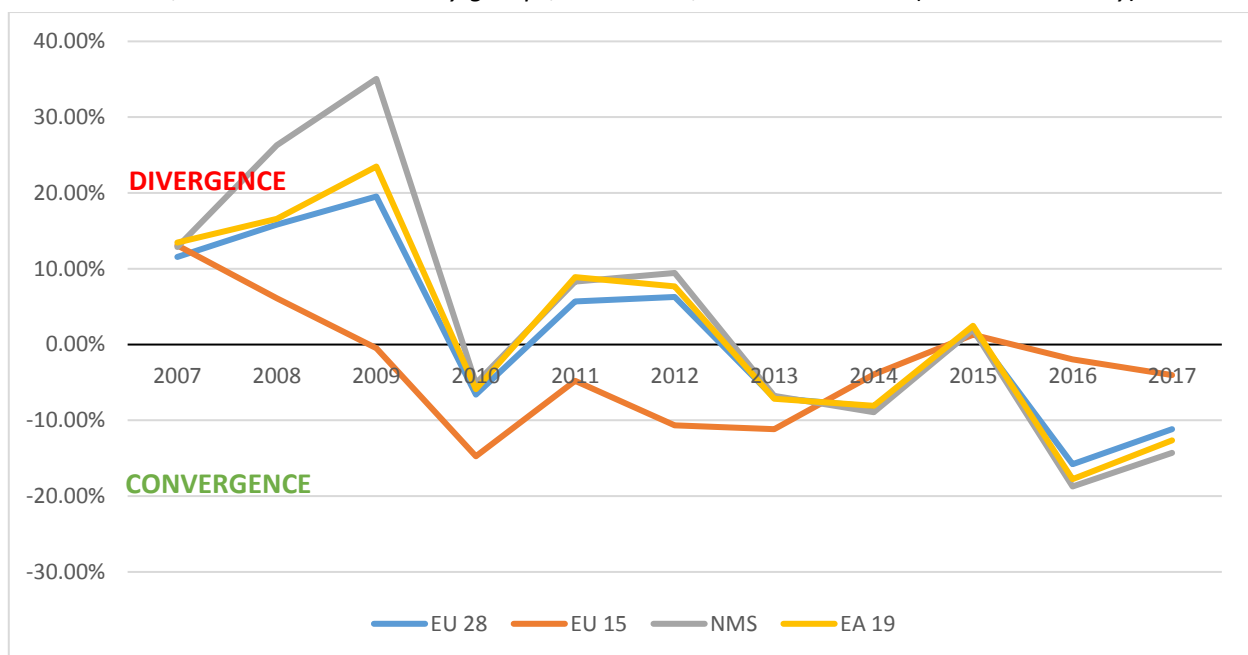


Source: ECRI Statistical Package 2018.

The EU28 and the EA19, after a period of divergence, nowadays display a dispersion in credit to NFCs as a percentage of GDP that is very similar to that of pre-crisis 2007. In the case of the NMS, dispersion has increased overall over the same period, while it has decreased substantially for the EU15 (i.e. the countries that make up the EU15 have converged to similar percentages for credit to NFCs as a percentage of GDP over the 2007-2017 period).

Figure 28 shows the year-on-year percentage variation in standard deviation within country groups: a positive change represents divergence and vice versa. As the figure shows, the EU15 have been converging every year since 2009, except for slight divergence in 2015. The other country groups have followed similar patterns, with countries within these groups diverging in 2011, 2012 and 2015. Since 2016, all country groups have experienced within-group convergence.

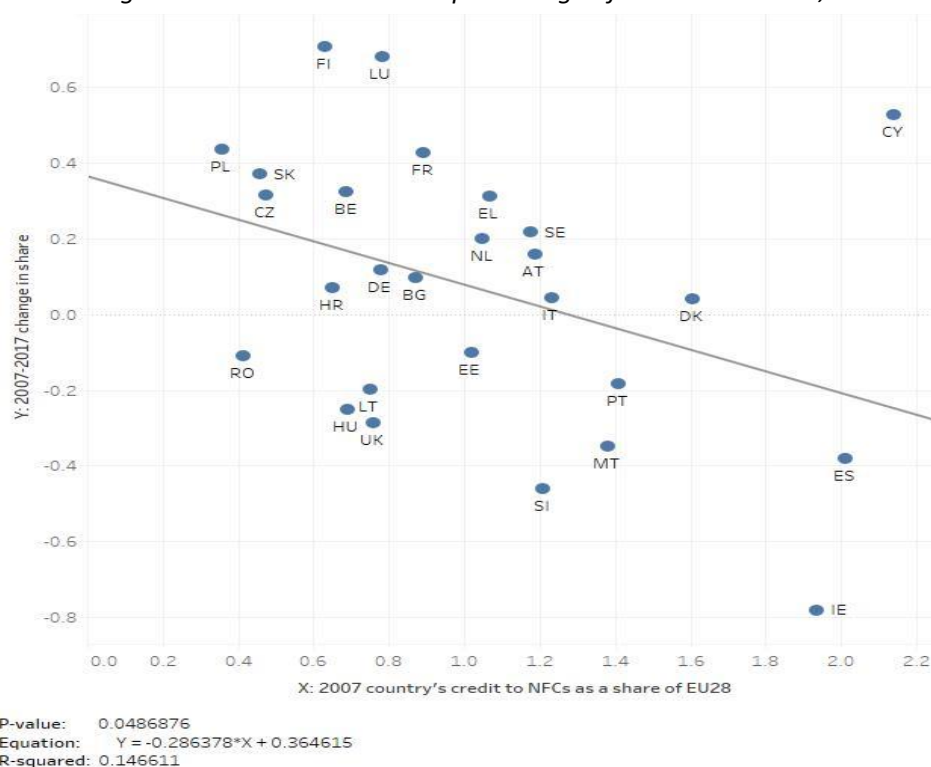
Figure 28. Year-on-year percentage change in the standard deviation of credit to NFCs as a percentage of GDP, within selected country groups, 2007-2017, in nominal terms (national currency)



Source: ECRI Statistical Package 2018.

EU member states also displayed beta convergence in credit to NFCS as a percentage of GDP between 2007 and 2017, as shown in Image 4 below. The theoretical framework and formulae adopted are the same as in the preceding sections. The R-squared is small (0.15), but the negative relationship is statistically significant at the 5% level. Cyprus constitutes an outlier with its sustained growth performance despite starting from a very good position in the first place, in 2007.

Image 4. Beta convergence in credit to NFCs as a percentage of GDP in the EU28, in real terms (euros)



Source: ECRI Statistical Package 2018.

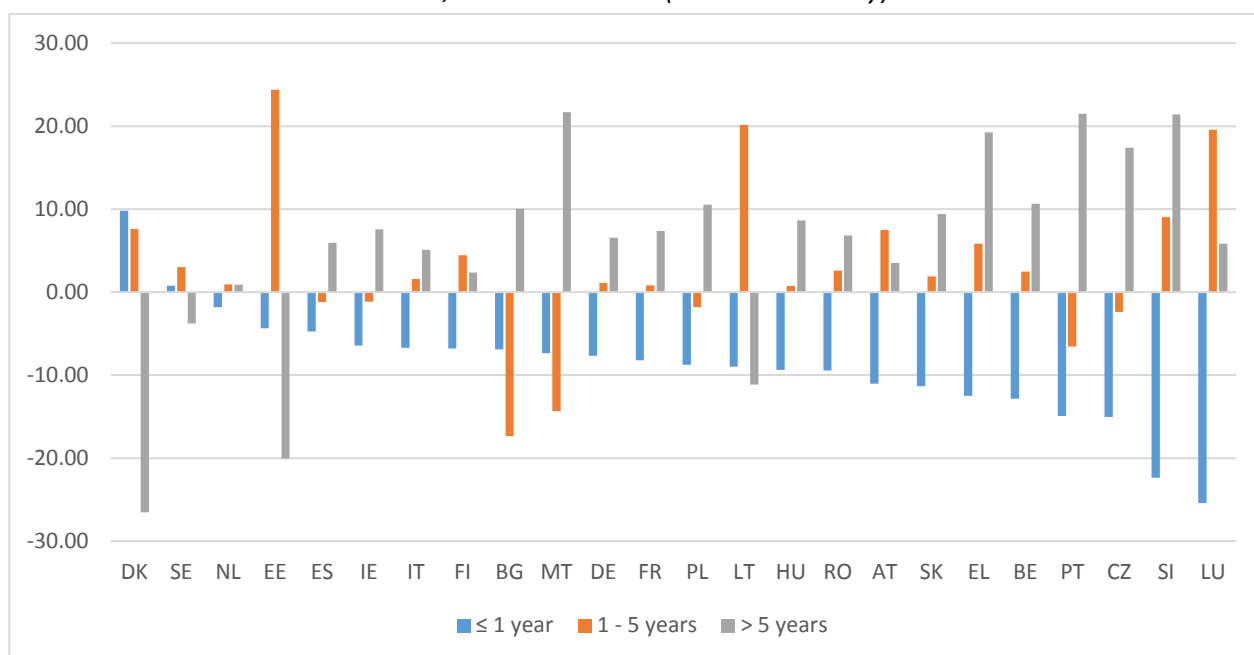
Credit to NFCs can be examined at a more granular level by exploring developments in the maturity structure. In particular, loans to NFCs with an original maturity equal to or below 1 year are usually used to cover business needs for working capital. Instead, loans with longer original maturities (and especially those with a maturity over 5 years) can be interpreted as a proxy of long-term investments, which in turn are critical for future economic growth.

Comparing the maturity structure of 2017 with the pre-crisis one of 2007 (Figure 29), the changes are stark. In 22 member states,⁹ the share of loans with an original maturity equal to, or shorter than 1 year has decreased: in the extreme cases of Luxembourg and Slovenia, the share has shrunk by more than 20 percentage points. The share of credit granted to NFCs with an original maturity of 1 to 5 years increased in 17 member states, with positive changes above 20 percentage points in Estonia, Lithuania and Luxembourg. Finally, the share of credit to NFCs with an original maturity above 5 years increased in 20 member states.

Figure 30 focuses on the percentage changes in the level of outstanding credit to NFCs in 2017, compared to 2016. Growth in loans to NFCs in Germany, the state with the largest percentage change for total credit to NFCs in 2017, has been mainly driven by loans with a maturity over 5 years. Similarly, growth in such loans was positive in 14 member states, and particularly large in the cases of Hungary, Finland and Luxembourg (8.2%, 7.4% and 6% respectively). This raises optimism for future growth as it indicates businesses have started undertaking long-term investments again, and is consistent with the Bank Lending Survey (ECB, April 2018), which identifies NFCs' fixed investment as the main driver of increased demand for loans.

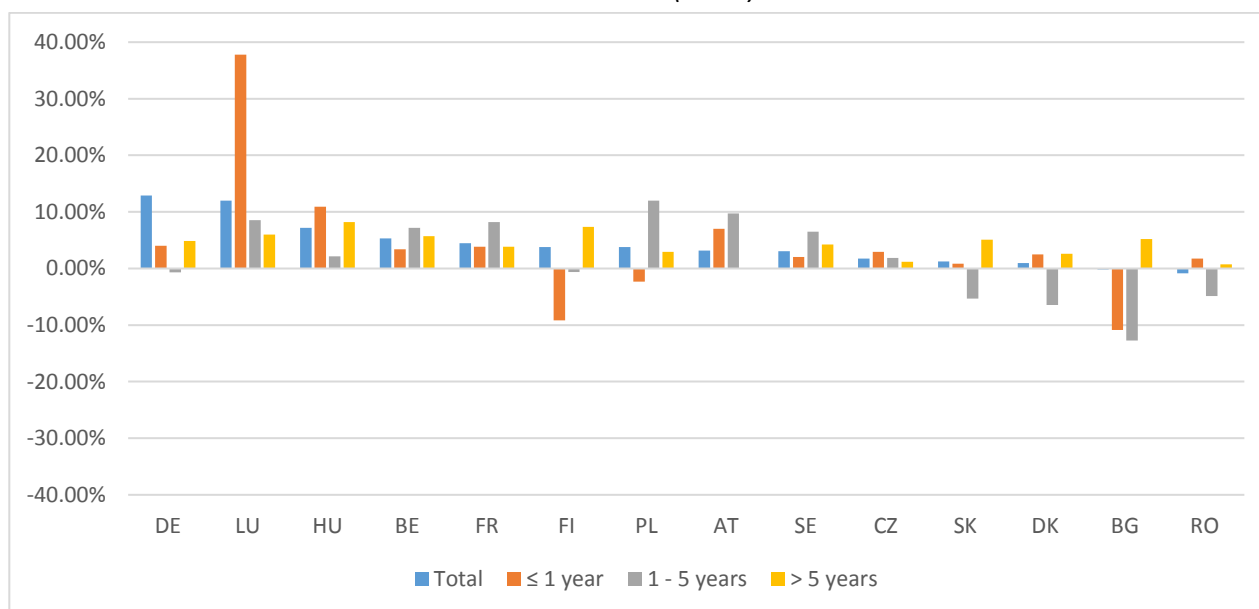
⁹ Out of 24 member states: data is not available for Croatia, Cyprus, Latvia and the UK.

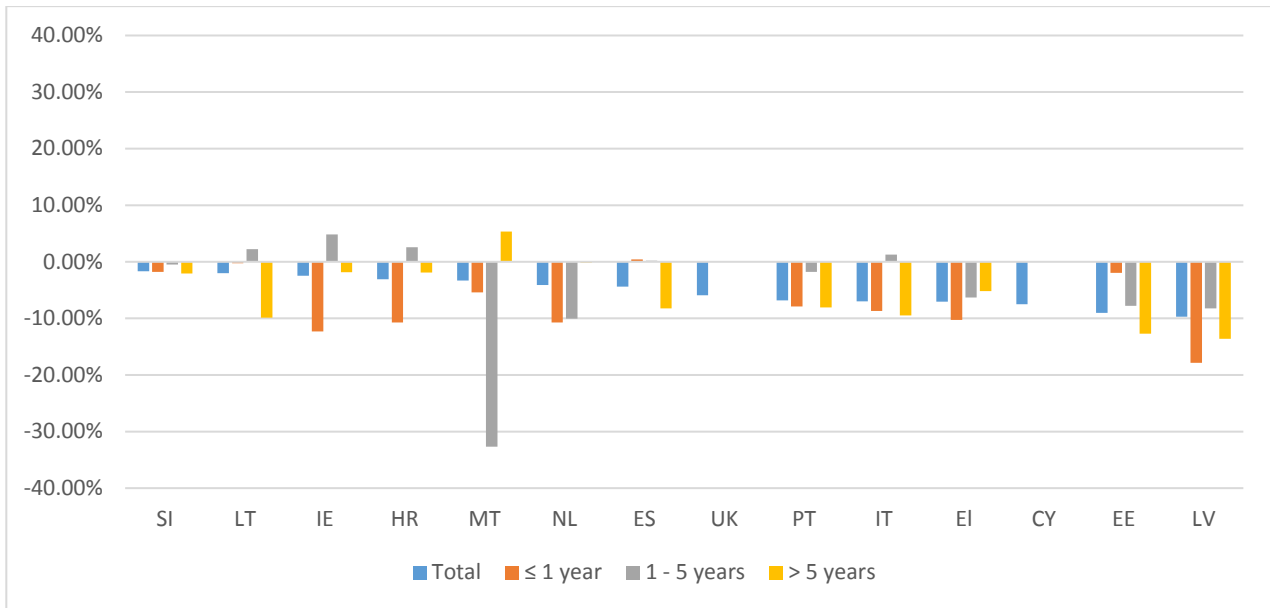
Figure 29. Percentage point differences in the shares of loans to NFCs by maturity, between 2017 and 2007, in nominal terms (national currency)



Source: ECRI Statistical Package 2018.

Figure 30a and b. Year-on-year percentage change in loans to NFCs, total and by maturity, in 2017, in real terms (euros)





Source: ECRI Statistical Package 2018.

Regression Analysis

In this concluding section, the paper analyses the drivers of the growth in total credit to households in European markets, making use of OLS regression analysis.

Table 1 below explains the data that has been used in the estimations. The period analysed goes from 1995 to 2017, although data is not available for all indicators over the entire period across all countries. The regression model is as follows:

$$\begin{aligned}
 & \text{Growth in Total Credit to Households} \\
 &= \alpha + \beta_1 \text{Growth in total credit to households in } t - 1 \\
 &+ \beta_2 \text{Growth in the House Price Index} \\
 &+ \beta_3 \text{Growth in Gross Disposable Income of Households per capita} + \epsilon
 \end{aligned}$$

Table 1. Explanation of Data Employed in Regressions

Name of variable in regression	Explanation	Source
Growth in total credit to households	Year-on-year real growth in total credit to households, computed from data in national currency at constant 2005 prices	ECRI Statistical Package 2018
Growth in total credit to households in t-1	Ibid. but year value refers to the value above for the preceding year	ECRI Statistical Package 2018
Growth in the House Price Index	House price index, new and existing dwellings; residential property in good and poor condition; whole country; neither seasonally nor working day adjusted	Eurostat
Growth in gross disposable income of households per capita	Year-on-year real growth in gross disposable income of households per capita, computed from data in euro at constant 2005 prices	ECRI Statistical Package 2018

Table 2 below shows the results of the multiple regressions run: the robustness of the results of the EU28 regression (which contains all observations) is verified by running the same regression limited to different sub-sets of countries (the EU15 countries, the NMS, the EA19 countries, and the non-EA ones).

First of all, the adjusted R-squared of the regressions goes from 0.50 for the non-EA countries to 0.72 for the EA19 ones. The R-squared measures the proportion of the variation in the dependent variable explained by the independent variables. The Adjusted R-squared adjusts the statistic based on the number of independent variables in the model. The relatively high adjusted R-squared is good news in terms of the goodness-of-fit of the models (although its importance should not be overestimated). Growth in total credit to households presents a relatively strong inertia, as growth in the preceding period is strongly statistically significant across all country groups: a 10% growth in year t-1 is associated with 6.9% growth in year t, for the EU28.

Growth in gross disposable income (GDI) of households per capita is positively associated with the growth in total credit to households (and statistically significant for the EU28, the EU15 and the EA19). For instance, in the EU28, a 10% increase in gross disposable income of households per capita is associated with a 2% increase in total credit to households. This positive association can be explained in terms of bank credit standards based on loan-to-income ratios for determining the size of loans granted: the larger the borrower's income, the more they can borrow.

The coefficient on growth in the house price index is positive across all country groups, but it is not statistically significant in any of them. The lack of a strong positive association can be explained by the fact that the regressions use growth in total credit to households as the dependent variable, hence including not only housing loans, but also consumer and other loans. Finally, inflation does not need to be controlled for in the regressions since all the data is in real terms (at constant 2005 prices). Table 2 provides a complete summary of the results.

Table 2. Multiple regression of growth in total credit to households on various independent factors, in different country groups (1995-2017)

Y: Growth in total credit to households	EU 28	EU 15	NMS	EA 19	Non-EA
X:					
Growth in total credit to households in t-1	0.6896 *** (0.0298)	0.7241 *** (0.0408)	0.6758 *** (0.0520)	0.6887 *** (0.0288)	0.6902 *** (0.0675)
Growth in House Price Index	0.0033 (0.0038)	0.0013 (0.0039)	0.0048 (0.0073)	0.0032 (0.0032)	0.0033 (0.0113)
Growth in gross disposable income of households per capita	0.2034 ** (0.0884)	0.3740 *** (0.1297)	0.1545 (0.1508)	0.1567 ** (0.0767)	0.2828 (0.2565)
Constant	0.0074 * (0.0043)	0.0057 * (0.0034)	0.0091 (0.0118)	0.0056 (0.0036)	0.0107 (0.0133)
Number of observations	376	252	124	267	109
R-Squared	0.6211	0.6387	0.6039	0.7195	0.5142
Adjusted R-squared	0.6180	0.6344	0.5940	0.7163	0.5003
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000

Note: Statistically significant at the 1% level (***), 5% level (**), 10% level (*).

Source: ECRI Statistical Package 2018; Eurostat.

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The Authors

Sylvain Bouyon is a Research Fellow, Head of Fintech and Retail Finance at CEPS and ECRI.

Pietro Gagliardi is a Research Intern at CEPS and ECRI.

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**European Credit
Research Institute (ECRI)**
Place du Congrès 1
B-1000 Brussels, Belgium
Tel.: +32-2-2293911
Email: info@ecri.eu
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